

MANUFACTURERS' RECORD

A Weekly Southern Industrial and Hardware Newspaper.

VOL. 10. No. 13.
WEEKLY.

BALTIMORE, NOVEMBER 6, 1886.

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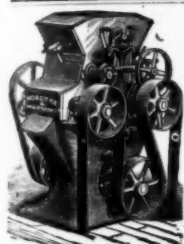
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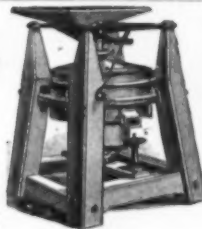
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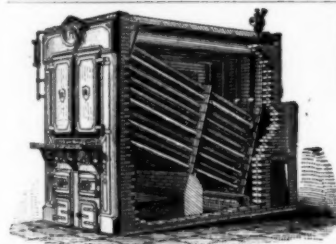
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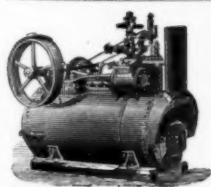
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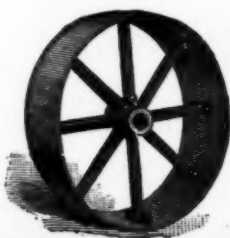
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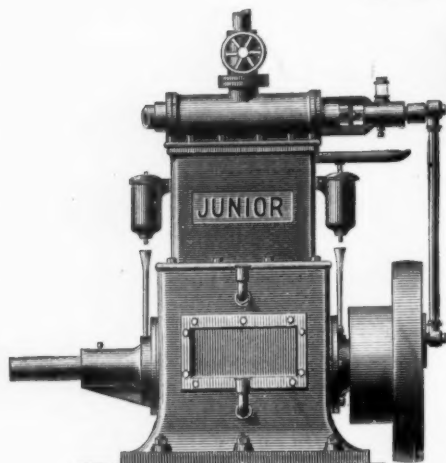
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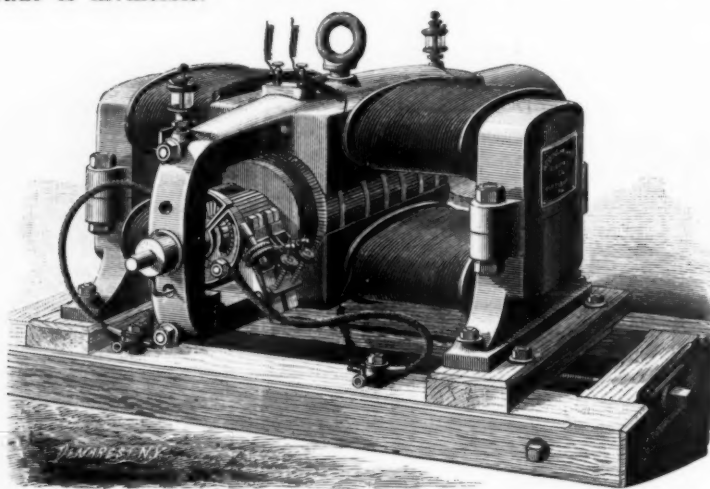
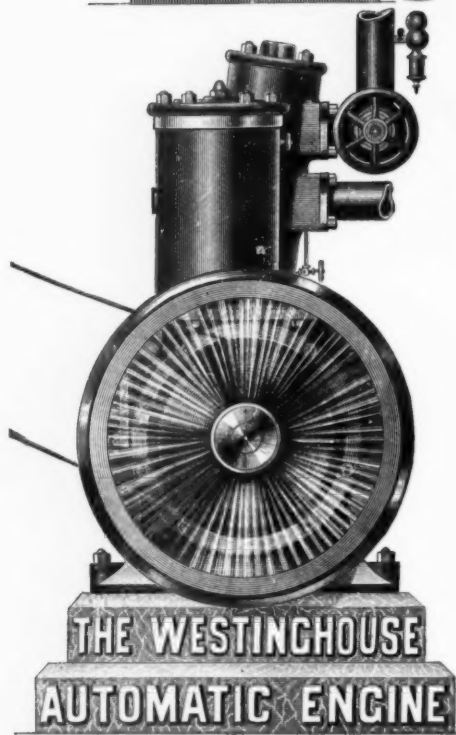
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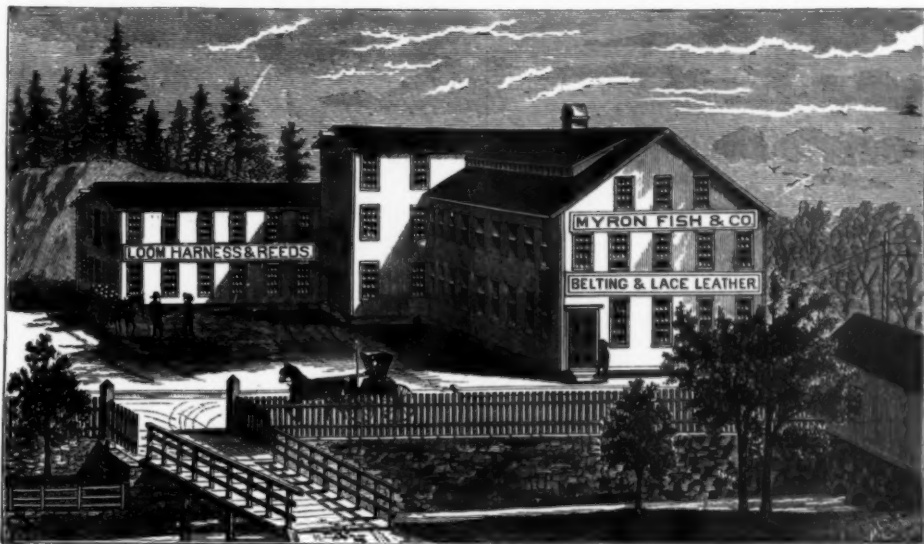
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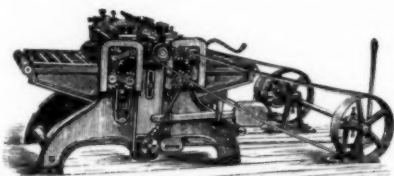
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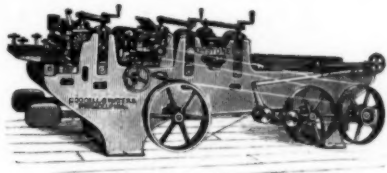
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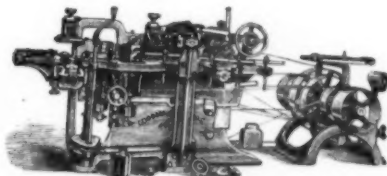
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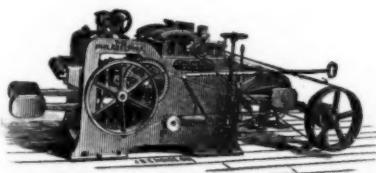
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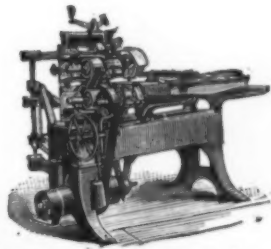


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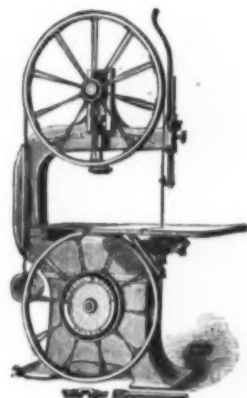


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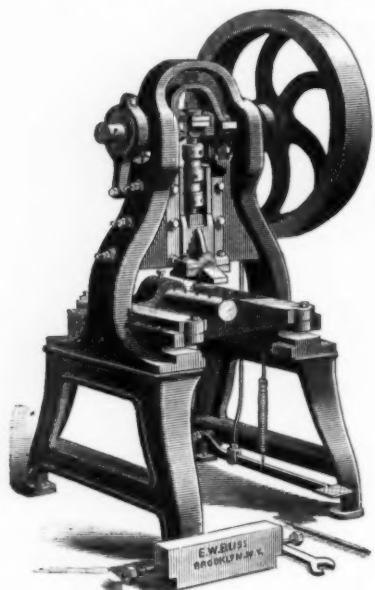
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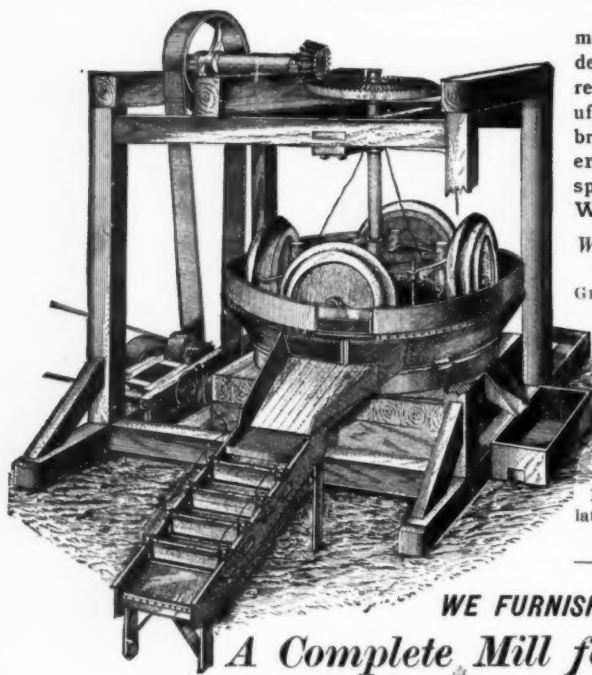


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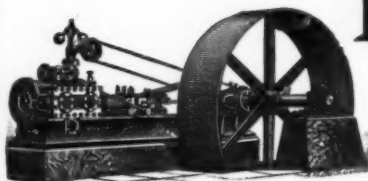
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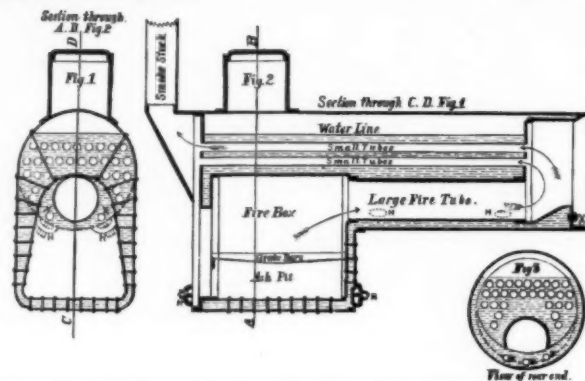
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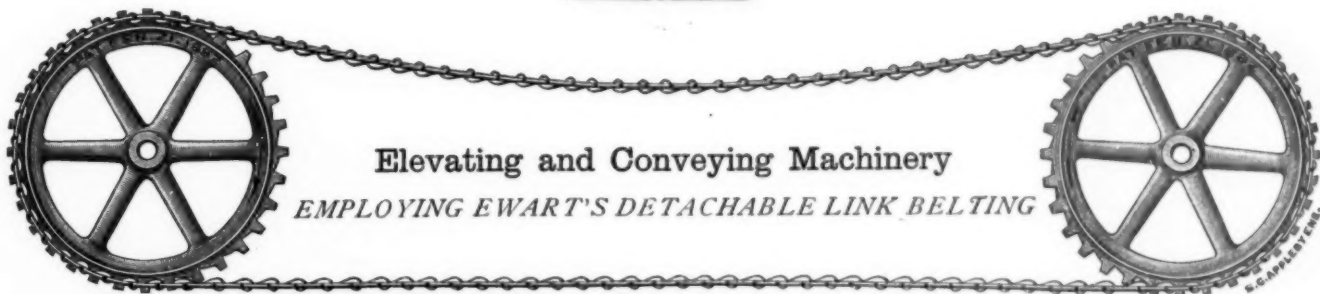
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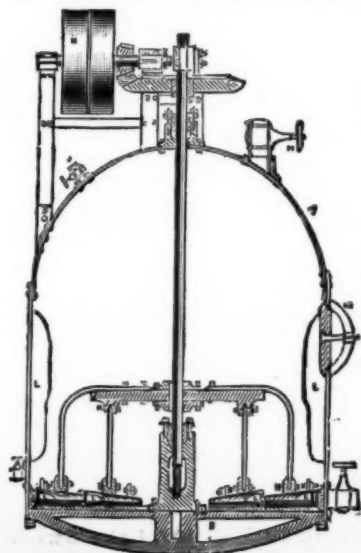
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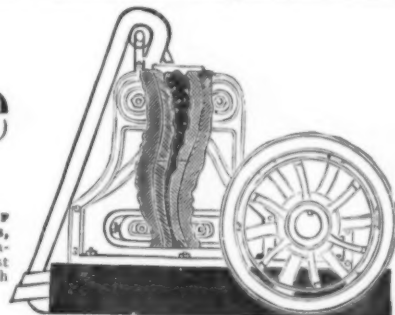
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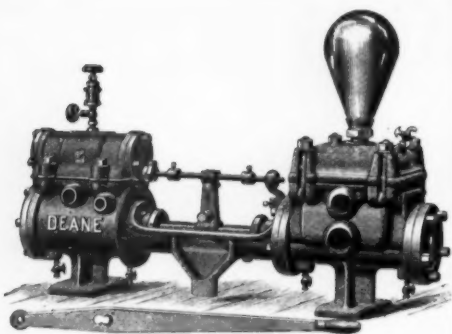


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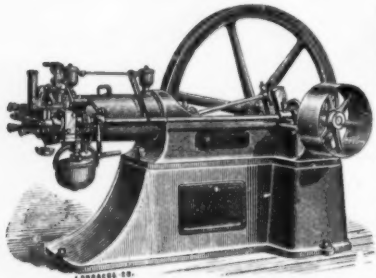
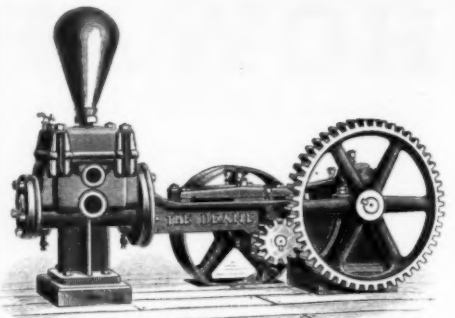
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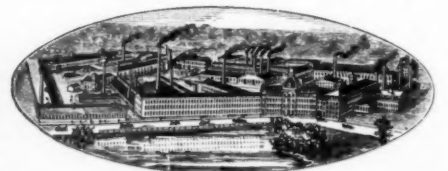
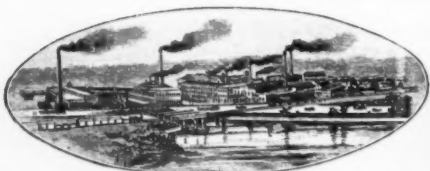
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BALTIMORE, NOVEMBER 6, 1886.

The Raleigh Convention.

The convention held in Raleigh last week was in many respects a remarkable assemblage. Called by men of Northern and foreign birth, who have for some time been citizens of North Carolina, it drew delegations from every State bordering the Atlantic from Maryland to Maine. It was a typical American gathering, made up of farmers, manufacturers, merchants, artisans and journalists. It was a practical body, assembled to discuss questions of grave interest, and to put into active operation whatever machinery might seem necessary for the success of the work it had assumed. The one idea and purpose of the projectors of this convention was to secure additions to the population of North Carolina from those States which have for a century been sending the flower of their youth to the West. Southern States, railroad companies and enterprising communities have made repeated attempts to accomplish this, which have been to a certain extent successful. All such efforts have not had continuous efficacy, because nothing was heard from the settlers, except that occasionally some dissatisfied one rushed into print and "freed his mind" by decrying the South. Thus for twenty years the voice of the grumbler has been heard in the land, while the tens of thousands of Southern citizens of Northern birth have been prospering in their various pursuits, but have made no sign. Those who have within five years become citizens of North Carolina have been surprised to find among their neighbors many who were once, like themselves, immigrants from the North. From these old settlers they gained information that saved them many and often costly experiments, and enabled them to follow their callings without the drawbacks and disadvantages incidental to engaging in agriculture or any other industry amid new and strange surroundings. The bureau of immigration has within four years added several thousand Northern families to North Carolina's population, the natural effect of which has been to increase the intercourse between "old settlers and new-comers," and to stimulate the entire people to

greater activity in aiding the work of that bureau. When the settlers united in calling their convention the natives seconded the call with enthusiasm, and Commissioner Patrick pledged his active co-operation. During the summer and autumn these and the State fair managers worked in unison with the North Carolina journalists to make the displays at the fair and the reports from all parts of the State as complete as possible. The results were worthy of the labor that produced them. The varied industries of North Carolina and the raw materials that furnish their bases were quite fully represented at the fair, while intelligent men from every senatorial district told of the climate, soil, crops, forests, mines, quarries, mineral springs, water powers and other natural advantages and peculiarities of their respective localities, and of their social, educational and religious institutions. All these reports are to be published in the November number of the Bulletin of the Department of Agriculture, of which an enormous edition will be issued for gratuitous circulation. The letter of a special correspondent in this issue contains a *resumé* of the entire proceedings.

The MANUFACTURERS' RECORD congratulates North Carolina upon the splendid success that has crowned this undertaking. No such practical effort to secure first-class immigration was ever before made. That it will accomplish its set purpose is beyond a peradventure, for all conditions are favorable, the work was admirably done, and the organization of the settlers for the purpose of active co-operation with the bureau of immigration, furnishes the machinery needed for its accomplishment.

THE disreputable attempts that have lately been made to arouse the hostility of Northern workmen against the South have recoiled with stinging effects against their authors. The South is prosperous and contented, devoting her energies to the development of her unequalled resources, and to the education of her citizens, white and black. Her laboring classes are well paid; they enjoy many advantages not possessed in the North, and as a rule are happy and well satisfied. The attempt to sow the seeds of discord among them, and for purely demagogical reasons to seek to array them against their employers, or to arouse a sectional animosity against the South, both of which have lately been tried, will undoubtedly react on those whose selfish aims have caused them to attempt this.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

Pig Iron in Alabama at \$8 00 Per Ton.

The MANUFACTURERS' RECORD is always glad to have its claims regarding the South's industrial advantages supported by the testimony of competent Northern investigators, and hence it is with pleasure that we give some facts regarding the cost of making iron in Alabama, as presented by Mr. R. P. Rothwell, C. E., M. E., the editor of the New York Engineering and Mining Journal. Mr. Rothwell, as stated in the MANUFACTURERS' RECORD a few weeks ago, has lately made a careful personal investigation of Alabama's iron making possibilities, and his statements on this subject will be accepted as entirely reliable, even by those who have persistently denied that pig iron could be made in Alabama for \$10 a ton or less.

Referring to the statement of Mr. E. C. Pechin, of the Iron Trade Review, in which the actual cost of making Bessemer iron at Lake Erie ports is given as \$14.23, Mr. Rothwell says:

"We are at present unable to give full information as to the quantity or quality of the alleged Bessemer ores of Cartersville, Ga.; but we can give the cost of making iron from native ores (fossil red ores and limonites) in the Birmingham district of Alabama. Though these figures are not to be applied to any particular works, yet they are 'absolute figures of cost,' and nothing is 'assumed,' except the two items of renewals and incidentals, which Mr. Pechin also assumes:

100 of iron, at 2 cents a unit.....	\$2.00
Fuel, 1½ tons.....	3.50
Limestone.....	.30
Labor.....	1.50

Renewals and incidentals.....	\$7.30
	1.00

Total cost, exclusive of interest on capital or profit on mining.....	\$8.30
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Each of the principal items given above is "bettered" at one or the other of the works, and though none of the furnaces has the capacity to reduce the labor account to the Chicago standard, yet enough has been done to show what can be done continuously, and to justify the statement that pig iron can be made at certain points in the Birmingham district at a figure not exceeding \$8 a ton, every expense included, even to that indefinite and mysterious item that makes its appearance when stock is taken at the end of the year.

We are well aware that but a single concern in the Birmingham district has thus far made a continuous blast exceeding three years, and every one knows the high labor cost, due to short blasts and small production, and the expensive 'renewals,' have brought the cost of making pig-iron up probably to between \$11 and \$12 at some of the other Alabama furnaces; but it is also true that the furnaces that have made the best record have absolutely no advantage in the quality of either ore or coke over those that have made the worst records.

With a more liberal investment in chemists and greater care in selecting and classifying stock, even better results than those we have given above will be attained.

The ores on which the figures above stated are based yield only about 44 to 46 per cent. in the furnace, and contain from 10 to 15 per cent. of silica and a large percentage of lime. The coke used in the Birmingham district carries from 12 to 15 per cent. of ash, most of which is silica. That washed coke will present great advantages over that now used needs no argument.

The cost of making Bessemer pig in the Birmingham district is dependent solely on the distance from which Bessemer ores have to be brought. If Cartersville, with 150

miles haul, can supply the ore of desired quality, and yielding even 55 per cent. of iron, the increased cost of transportation over native ores would not exceed \$1.75 per ton of pig iron, and the greater cost of mining, if any, would be more than balanced by the lower fuel and labor items; so that, if we can assume that good Bessemer ores can be procured in quantity and in convenient location within 150 or even within 200 miles of Birmingham, it is possible to make Bessemer pig there at \$10.50 a ton, and possibly even at \$10.

These figures not only assure the prosperity of the iron-making industry in Alabama, giving it beyond question the Southern markets, but they are sufficiently far below the cost at a large number of Northern furnaces to enable Alabama to make the prices, if need be, in some of our large Northern markets.

To say that the Southern furnaces will monopolize the iron business of the country and 'blow out' all the Northern furnaces, is simple nonsense, but the possibility of making iron in almost unlimited quantity in Alabama at about \$8 a ton, is a suggestive if not a very disturbing fact for our Northern ironmasters to contemplate. On another occasion, we shall go more into the details of cost of ore, coal, coke, etc., and give further subject for consideration."

Coming as these statements do from such an unquestioned authority, they prove that the wonderful advantages of the South for making cheap pig iron have not been exaggerated, but rather that they have been underestimated. Very few, even of the strongest advocates of Alabama's iron interests, have dared to claim that pig iron could be made in that State at \$8 a ton, and yet it is proved that this can be done, the proof, too, coming from a Northern source.

HENDERSON, North Carolina, is another of the prosperous towns of that great State. The record of the tobacco trade last year was one of which her enterprising business men are justly proud. Henderson's tobacco market was established in 1872, with sales of 300,000 pounds of bright leaf. The total sold on that market between January 1st, 1885, and January 1st, 1886, was 8,158,139 pounds. One notable feature of this heavy business is that nearly the whole comes directly from the farmers of Vance and adjoining counties. Another evidence of Henderson's prosperity is the number of new buildings last year. Among these were 23 brick stores, 8 leaf tobacco factories, 61 dwellings and 2 brick churches. Other particulars about this thriving town may be found in the letter of our special correspondent.

THE Monarch Steamship Co., of Liverpool and New York, have decided to run a line of steamers in connection with the Virginia, Tennessee & Georgia Air Line between Norfolk and Liverpool. They will despatch three steamers from Norfolk during November, and after that establish, so it is said, regular sailing days. Norfolk has a very large cotton trade, her daily receipts now averaging about 5,000 bales, and a regular line of steamers to Liverpool ought to find abundant business, at least during the cotton season.

The Development of the South in her Industrial and Mineral Resources.

An Address delivered Thursday, October 28, by MAJOR W. M. PEGRAM, of the Baltimore MANUFACTURERS' RECORD, before the Convention of Northern Settlers in North Carolina, held at Raleigh, October 26 to 28.

Mr. President—It is with a feeling of no little pride at the honor conferred upon me that I rise to address this vast and phenomenal assembly, composed of men from various parts of this great country, who are drawn together at this time to note the results of patient industry and hardy toil, and by an interchange of views upon the all important subject of agriculture, to promote those grand interests which are the foundation of the wealth and prosperity of every country. I see before me men from the States north of the Potomac, who, less than a quarter of a century ago, joined issue in combat on many bloody fields with those of the States south of the same great river, and having settled forever the vexed question of that day, Union or Disunion? have now each beaten their swords into ploughshares, and are striving just as earnestly and with equal enthusiasm and patriotism to bring about the blessings of reconciliation and peace. They meet together now as brothers and friends in a common cause, actuated by the same great motives, all bitterness engendered by the trying times through which each has passed obliterated, and rallying under the broad banner of love and good-will. Such meetings as this should put to silence the carping whines of political demagogues, enkindle in the heart a kindlier regard for human nature in general, and make all true men glory in their manhood.

The subject upon which I have the honor to address you is the "Development of the South in her Industrial and Mineral Resources." While fully alive to the magnitude of the work before me—a theme which has employed in late years the pens of the greatest writers and thinkers of this and other countries; a theme which for years to come will occupy the minds of scientists and sages—I am also deeply sensible of the fact that time will not allow me to deal with the question other than by outline, supplemented with such varied statistics as may be appropriate to the subject. The remarkable growth of the South in her industrial interests during the past few years of her race of progress has been phenomenal and without a parallel in the history of any country.

Emerging from a devastating war without means, with energies depressed, her system of labor entirely annihilated, and hope for the future almost entirely gone, she has put on new life, born of necessity and trial, and is now soaring, phoenix-like, from the ashes of a seemingly overwhelming fate, a New South, with attractions incomparable, and resources infinite and inexhaustible. It was thought by many at the outset that no development could be had without such aid from the North as would in time be of injury to that section, and with that possibility, would necessarily be withheld. Contrary to this expectation, the development of her manufacturing interests alone, in many cases, without pecuniary aid from outside agencies, has been such as to render it certain that the North will be benefited, and that to an extraordinary degree, by these various Southern industries, provided the sections do not become antagonistic, and stumbling blocks, of whatever kind they be, thrown in the way to impede the march of successful progress. Mr. W. L. Breyfogle, of Louisville, Ky., in his able pamphlet on this subject, says: "The necessities of the North and the opportunities of the South were never so well calculated or so happily timed to give each section immediate and great prosperity, necessarily resulting in a cordial and thorough union of interests and feeling, as these which exist to-day. * * * The North and the

South must now become either allies or rivals. If the first, both sections will gain unprecedented prosperity; if the last, while the North must lose much, the South will gain something, but far less than if both sections move together. In other words, the South can grow in a way to build up the North, or she can grow at the expense of the North. Nothing can prevent her growth; but it is for the North alone to determine what share or part she will take in Southern development."

That she has taken and is still taking a large share in this great work is a fact which shows well her appreciation of the position she would likely be placed in were she not keenly alive to her own interests and did not take advantage of the opportunity she has for enhancing them. The New Orleans Times-Democrat, in its review of Southern progress, published September 1st of this year, shows the number of manufacturing establishments of all kinds in the South in the year 1879 to be 34,563, whose products in dollars amounted to \$315,924,794. In 1885 there were 51,419 establishments, with products valued at \$505,892,000, thus increasing in six years in the number of establishments 49 per cent.; in capital, 93 per cent.; in force employed, 63 per cent., and in products, 60 per cent. The increase has been much greater when compared with that of 1870. In that year the number of manufacturing establishments was 31,524, with products amounting to \$236,452,444, while in 1886, to September 1st, the number of establishments was 52,986 (including sugar mills), with aggregate products amounting \$532,630,000—an increase in establishments of all kinds, 68 per cent.; in capital, 137 per cent.; in force employed, 116 per cent., and in products, 125 per cent. This would verify the assertion of the aforementioned writer that "nothing can stop the growth of the South."

It is needless to ask from whence came the means for developing such enterprises? To a certain limited extent it was to be found in the South, gotten together by dint of hard work and frugal living, in the attempt at building up lost fortunes, or repairing those which were well-nigh lost in the troublous times. In many places, large manufacturing centers, it is the proud boast of their citizens that Southern money and Southern pluck have achieved their successes; but in the South at large great quantities of Northern capital have been invested by shrewd and far-seeing capitalists, who mark in the South a future of progress and prosperity hitherto unequalled in the annals of history.

The Baltimore MANUFACTURERS' RECORD, the recognized authority on Southern matters, in a tabulated statement, published July 10th, gave to the world the startling intelligence that from the first day of January to the first day of July, 1886, six months, there had been invested of Northern and Southern capital in the varied interests of the South over \$63,000,000, as compared to \$36,000,000 in the same period of 1885. This was no imaginary statement. It was guaranteed by the published list of the several industries established, the amount of capital invested in them, and the names of the parties making such investments. During the last nine months there have been organized in the South forty-two ice factories, fifty-six foundries and machine shops—many of them a large size—one Bessemer steel rail mill, sixteen miscellaneous iron works, including iron pipe works, bridge and bolt works, etc., five stove foundries, nineteen gas works, twenty-three electric companies, eight agricultural implement factories, one hundred and fourteen mining and quarterming enterprises, twelve carriage and wagon factories, nine cotton mills, nineteen furniture factories, twenty-one water works, forty-four tobacco factories, seventy-one flour mills, three hundred and sixty-two lumber mills, not counting small portable saw mills, including saw and planing mills, sash and

door factories, a stove handle, shingle, hub and spoke, shuttle block factories, etc., in addition to which there was a large number of miscellaneous enterprises. During the nine months of 1886, the amount of capital, including the capital stock of incorporated companies represented by new manufacturing and mining enterprises, organized or chartered at the South and in the enlargement of old plants and rebuilding of mills that were destroyed by fire, aggregates about \$93,834,200 against \$52,396,300 for the corresponding period of 1885. These facts go to show in some degree what part the North is taking in the development of the South. Throughout the length and breadth of the Southern country to-day the watchwords are "Progress and Development." During the past five months it has been my pleasure to make a tour through the great mineral and industrial districts of the South, beginning at Southwest Virginia, which may be truly called the great, grand treasure house of the Old Dominion.

There I have visited the lead, zinc, iron and coal mines, and other varied industries, which abound in that region; so I am enabled to speak from personal observation. On every hand appeared those great sources of wealth: in many places, rich ores of different kinds cropping out of the ground in great quantities. Though these resources are as yet but in their infancy of development, enough has been done to show the fabulous and inexhaustible stores that are only awaiting their being brought to light to enrich their fortunate possessors. Furnaces are in full blast, turning out pig iron from the ores of the Cripple Creek region, which may be said to be one solid bed of ore from beginning to end. Machine shops are adding their weight to the helping on the great tide of progress. Factories of all kinds are starting, and latent talent and ingenuity asserting themselves in the manufacture of all kinds of wares. Skilled labor from the North is finding ready employment, having the right hand of fellowship offered it by the laboring man of the South. All throughout this section new schemes are being planned, new enterprises begun, and new country opened up, discovering to its possessors enormous mineral wealth.

In the great Flat Top coal region the rich and inexhaustible mines at Pocahontas and Bluestone sections are pouring out their vast products of coal and coke, which are unsurpassed in quality by any in the world. At the former mines the output is 2,500 tons per day from a single opening. The greatest output ever made from one opening in one day was 3,519 tons, which seems almost incredible. In these mines 1,000 miners are employed, one-third being colored, the remainder being composed of men from the old world, English, Irish, Scotch and Welsh, and a few also of native birth. Forty miles of steel rails traverse these mines, and cars are propelled in and out by small locomotives at a very rapid rate of speed. Some two hundred ovens produce coke of the finest grade, which is used by the furnaces throughout this section, while the coal is conveyed by the great Norfolk & Western Railroad to its tidewater terminus at Norfolk, where hundreds of vessels are to be found at all times anxiously awaiting its arrival, to transport it North to the bunkers of foreign and coastwise steamers, and to the pits of hundreds of industries which know of its wonderful qualities. In the Bluestone section a number of mines from this same lead are in full operation on Simmons's creek, and several others on Flipping creek will be opened by January 1st, 1887. About 750,000 tons will be the aggregate output for the year from these great and important industries.

At Roanoke are the great machine works which are doing their part towards adding to the wealth of that section. Here engines, boilers, cars and various kinds of machinery are constructed, and but a short time ago the works received an order, on

contract, for 500 freight cars for the New York, New Haven & Hartford Railroad, thus paying a merited tribute to Southern enterprise, and filling the car-builders of the North with chagrin and disgust. In the industrial world very few events have been more widely discussed; more joyously hailed on the one hand, and more ungrudgingly denounced on the other, than this very order. All the efforts made by competitors for the honor to argue away the force of its reception by a Southern corporation were lame and absurd. They saw the great future possibilities of the South in this particular, of which this was the entering wedge, and placed too by a Northern railroad, and could but console themselves with the hope that money would be lost on the contract, either by the company in getting inferior cars, or by the machine works in over-estimating their ability. In both cases they were sadly disappointed.

Car-building bids fair to be among the most important industries of the South. Already there are works of the kind in different parts of the country where cars are built at less expense for car wheels of the best quality, where timber is abundant, and all materials are had at lower prices than Northern car-builders are obliged to pay. And as with cars, so with many other things. There is no reason in the world why the South should ship her lumber and pig iron in their manufactured state to the North, and bring them back in the shape of agricultural implements, hardware, furniture, carriages, wagons, &c., paying freight both ways. The day is past for doing such things. Hereafter they will be manufactured at home, and thus not only save the cost of shipment to and fro, but will furnish employment for home talent, increase the value of property, and hasten on the growing prosperity of the South.

Throughout the old State of Tennessee are found vast and almost immeasurable coal fields, contributing their supplies of this great agent to the wealth-producing industries of the country. Here also are the vast marble interests which are at this time attracting such attention at home and abroad. These immense and formidable interests were first started in Tennessee some sixty years ago, but only within the last six years have developments been made in the beautiful variegated and pink marbles. There is also a very superior quality of grey marble found in immense quantities, of extraordinary density, weighing 180 pounds to the cubic foot, which no stain can tarnish, and which is capable of bearing a pressure of 12,000 pounds to the square inch, thus making it the most desirable for building purposes of all the marbles in the country. The whole valley of East Tennessee seems to be underlaid with solid beds of these magnificent deposits, which must prove a source of never-ending wealth. There are also enterprises of all kinds throughout the State, such as car-wheel works, cotton and woolen mills, iron companies, button factories, &c., all adding their mite to the general prosperity.

Crossing into the Old North State, in whose capital city we are now enjoying that hospitality which is the great pride and pleasure of her people, we find ourselves in one of the grandest, noblest, richest and most important of the bright galaxy of States. Rich in resources, some of which are found nowhere else on this continent, she stands forth in her pride of development a grand figure in the great confederation. Just within her borders, in the western part of the State, are located the celebrated Cranberry Iron Mines, with products possessing properties which are not found in the ores of any other mines. They produce from 50 to 70 per cent. of pure magnetic and semi-magnetic metal, and from the crude ore tools of excellent quality have been manufactured, as a test, by simply beating them into shape on the anvil without resorting to the customary operation of heating.

This ore requires no fluxing, but is frequently used in that capacity in melting other ores. These mines extend from the Doe river into Tennessee, twelve miles in a direct line, and through mountains of almost solid iron. Six hundred men are constantly employed in working them. From these mines will be supplied in part the ore for the great Bessemer steel plants now in course of construction in the sister States farther south, to which the eyes of the industrial world are at this time directed. The first forge worked in the western part of North Carolina was built by one Abram Johnson in 1760, on the Doe river. He died within the last few years at the age of 82, having lived long enough to see what immense and inexhaustible interests had grown out of the establishing of his humble effort.

The western section of North Carolina is well-named the Mountain Section. Its area is 150x50 miles, enclosing a lofty plateau, rising between two and three thousand feet above the sea level. Here are the highest mountains east of the Rockies, some of them towering up over 6,000 feet; notably Roan Mountain, which rises 6,200 feet, and from whose summit a view may be had of parts of seven States at once, standing in superb panorama. All throughout these mountains are vast forests of white pine, hemlock, chestnut and other trees. There is nowhere in the whole country to be found an equal area of land covered with trees of such value and to so great an extent. It is all original growth, and, until recent years, when railway facilities enabled it to find a market, had remained untouched from time immemorial. The climate throughout this section is glorious and invigorating, and during the winter, as well as the summer months, thousands of people from all parts of the country flock thither for health or pleasure, thereby adding very largely to its resources. Here also are found marbles of the finest quality and various colors, while mines of mica and corundum abound in many counties, which are being worked satisfactorily and paying good profits. Copper is also one of the prominent metals found here, the mines of which have been successfully operated.

The Middle or Piedmont Section comprises nearly one-half of the State. In this section are lands rich in agricultural development, growing wheat, corn, tobacco, barley, oats, buckwheat, &c., besides various grasses. This section was uninjured by the ravages of war, though the doing away with slavery rendered it necessary to rent out the lands, that the owner might derive some revenue from the immense tracts he was unable to cultivate for want of labor. As a result of this, men with lost fortunes, by dint of energy, hard labor and thrift, have found the means to repair losses, make homes for themselves, and begin and carry through improvements all over the length and breadth of the section. The timber resources here differ materially from those of other parts of the State. Here are the elm, maple, tulip, persimmon, black walnut, yellow pine, mulberry and other varieties of growth. That these timbers may be more fully utilized, more establishments are needed for turning it into wagons, carriages, agricultural implements, &c.

The Eastern Section comprises the great level plain of the Old State, extending about one hundred and twenty-five miles from the sea coast to the interior. The soil is for the most part a sandy loam, and, being easily cultivated, large crops of cereals, as well as cotton, are the results of the labor of the husbandman. The land is richly fertilized by natural deposits of lime and marl, as well as decomposed shells and other agencies, which go to enhance its fertility. Nearly all kinds of fruits grow also in great perfection. Of the timber of this section the first mention belongs to the long-leaf pine. This is *par excellence* the tree of trees. It covers an immense area of land, and apart from its products, its general adapta-

tion to building of all kinds, including ships, makes it one of the chief articles of export. The products of this tree are almost innumerable and well-nigh incredible. From it we get crude turpentine, rosin, spirits of turpentine or alcohol, pineoleum, creosote, tar and heavy oil of tar; from the long leaf we get stuffing for upholstery, carpets, matings and dressings for wounds; and lastly, we have the wood itself for fuel and charcoal. Of other trees are the cypress, white cedar and live oak, the last of which is found all along the coast, and is invaluable for shipbuilding. Apart from her iron deposits, North Carolina can boast of others equally important. Within a very small radius around the city of Charlotte, some forty or more gold mines are more or less successfully operated. In other parts of the State recent discoveries mark the existence of other rich deposits of the precious metal, in quantities which may probably bring about a recurrence of the scenes of '49 in California. The United States Mint in Charlotte is now used in part as an assay office, doing work of the kind amounting to about \$21,000 per month. Take her altogether, her industrial and mineral wealth, her climate, her great timber resources, her rich and fertile lands, her mineral springs and other attractions, we can point to North Carolina as a State whose grand future can hardly be imagined or prognosticated. In the great States of Georgia and Alabama the tide of progress and prosperity is now at its flood. Treat the developments of the immense interests throughout this part of the Southern country as we may, too much rhetorical coloring cannot be used. They are almost indescribable. The enormous iron and coal fields, lying in close proximity to each other, have reduced the manufacture of pig iron to a minimum, or about one-half the cost of its manufacture in the Northern States, and, as a consequence of this, large concerns engaged in this industry are wending their way Southward, taking advantage of the opportunities offered them, investing capital in building large furnaces, purchasing lands, and thus, while accumulating wealth, doing their part towards building up the South. This peculiar kind of immigration has tended, as was a very natural sequence, to create an unprecedented demand for real estate, and a consequent rise in values that can scarcely be estimated. Property adjacent to the great manufacturing centers, which aforesaid possessed nominal value per acre, is now sold at fabulous prices per front foot, and in many places is scarce at that. A notable instance of this is shown in the rapid and lasting development of Birmingham, Ala., well named the "Magic City." It is but a very few years since the founding of a city at this point was suggested, and there were found many persons who not only opposed the scheme, but even carried their convictions so far as to wash their hands of everything connected with the enterprise. It was the spirit of old fogysm, which opposes progress, which dominated these people, but the young blood was aroused to the teeming possibilities which were in store for this section, and taking matters in hand, became supreme. As a result of its action we see now a beautiful city, the story of whose growth in size and wealth in so short a time might seem to have emanated from the lips of a Munchausen, or had its origin in one of the Arabian Nights' tales. Birmingham is essentially a young man's town. During my recent visit there I met with not more than half a dozen grey and grizzled men, and they were either farmers from the country around, or prospectors from the North lured thither to satisfy themselves of the truth of the astounding statements concerning this now famous city. People are now flocking there, not only from all parts of this country, but from the other side of the Atlantic, who have come to build up their fortunes by profitable investments which are offered on every hand. Everything indicates an

enormous increase in population in the next few years. Daily trains are bringing to the city people, not only with baggage, but families with household furniture, showing that they have come to stay. Ask any ten persons you may meet on the streets for a direction to any locality, and eight out of the ten will tell you they "have just come." It is impossible to tell what will be her growth in size and wealth when the large and varied industries, the immense steel plants, the increased number of iron furnaces, the entrance of new railroads, and all the other agencies combined, which are now in progress, are actively put into operation. All of these are increasing the opportunities of employment for the young men of the South. Until recent years, the tide of immigration of this class was northward, seeking employment in the various avenues of business life. The losses occasioned by the war had rendered it necessary to sunder old ties and seek those fields where its ravages had not been felt, in the hope of gaining a livelihood. Now this is changed. Their eyes are being turned homeward again. The famous advice of Horace Greely, "Young man, go West," is fast becoming obsolete, being replaced by that of "Young man, go South," with a piece of supplementary wholesome advice to those at home "to stay there and help in the great work of development." But with all these extensive manufacturing and mining interests in the South, she can never be in the highest degree prosperous unless her agricultural interests are fostered and protected. Home markets are necessary to enable the farmer to satisfactorily dispose of his crops, and these must be found in the manufacturing centers which are dependent on him. But there is one burden which the Southern farmers seem determined to bear, notwithstanding the fact that in most cases, year by year, they become poorer, yet they turn a deaf ear to all advice in the matter. How those who farm on credit ever succeed under their self-imposed burdens is a matter of surprise, but it shows that farming in the South, even under adverse circumstances, must be a profitable business. The Baltimore MANUFACTURERS' RECORD, in treating of this subject, very aptly says: "Where the farmer in the South conducts his operations on a cash basis and raises his own foodstuffs, he is prosperous. That those who raise cotton, and that alone, on credit have not been entirely ruined financially is strong proof of the fact that farming in the South can and must yield pretty fair profits. We have frequently pointed out the disadvantages under which the farmer labors who raises cotton and buys his provisions, giving a mortgage on the former to secure the latter, and especially the exorbitant prices that he is compelled to pay as compared with cash prices. This feature of Southern farming has received the attention of the United States Agricultural Department, and a report has been issued bearing upon it. This report shows that Southern farmers who buy their supplies—corn, bacon, flour, hay, groceries, &c.—on credit, mortgaging their cotton crop in advance for them, pay from 15 to 92 per cent. more than what these same things can be had for by cash buyers, the average being about 50 per cent. Thus the farmer who buys for cash can secure for \$1,000 what his neighbor, who buys on credit, has to pay \$1,500 for. If there is any other business in the country that can stand such a tax as this, we would like to know it." Why the Southern farmers do not form an association or club, binding themselves by rules and regulations, agreeing to plant less acreage in cotton, say two-thirds in the staple and one-third in foodstuffs and farm supplies, raise their own bacon, &c., is a wonder to all who look at the subject in its profitable light. The less growth of cotton the greater the price all round, and the result would be a clear surplus profit, which hitherto has gone into the pockets of the commission merchant, leaving the farmer to come out at the

end of the year at the "little end of the horn." Diversified agriculture is the only salvation for the Southern farmer, and the sooner he learns to appreciate it the better. There is an old saying that "you can't teach an old dog new tricks." This is not absolutely true, and the said old dog is known to have been frequently benefited by the knowledge gained.

At the last Inter-State Agricultural Convention, at Jackson, Tenn., this important question was ably discussed, and resolutions adopted urging Southern farmers to plant less cotton and devote more attention to diversified agriculture. The resolutions read: "We appeal to the intelligence of the cotton grower and ask him can he pay the expense of farming and even make a bare living by selling cotton at 7½ cents a pound? The answer is already given in the negative. What is the remedy? We answer: Diversified crops. Plant one-third less cotton and raise more grain and grasses. Raise hogs and hominy. Let cotton be a surplus crop. Instead of producing six and a-half million bales, make only four and a-half millions. By this means we may realize the long price of our labor, and at the same time live independently of the sharks who profit by our losses." Words of sober wisdom which to the Southern farmer should be as "apples of gold upon pictures of silver."

To you, gentlemen of the North, this may seem a strange state of things, but it is unfortunately too true. You have been reared in a different school of agriculture, diversified crops having always been its most important lesson, by which you have profited. True, you have always possessed home markets, which are so absolutely essential to profitable farming,—blessings, to a very great extent, unenjoyed by the agriculturists of the South, but which, in the great tide of her progress and development, are now springing up on all sides. Give the Southern farmers the same opportunities possessed by the Pennsylvania farmers for instance, and they, too, would display the same energy and enterprise, and see the practical and pecuniary advantages to be derived from diversified agriculture. The last census tells us that the value of Pennsylvania's manufactures was greater than the combined values of the entire South; or, in other words, every manufacturing enterprise located in the fourteen Southern States in 1880, if crowded into one State as large as Pennsylvania, would not make that State near as much a manufacturing area as Pennsylvania was at that time. It is this enormous concentration of industrial interests that enables Pennsylvania farmers to grow rich. The same may be said of those in every agricultural district of the North. The next census will show a very different state of things as regards the manufacturing interests of the South, and it is to be hoped that the pecuniary condition of her farmers will show a proportionate increase.

One of the greatest evidences of the tide of Southern progress, and which is a harbinger of great prosperity throughout the length and breadth of the entire territory, is the increase in railroad facilities in the past few years. It has been the most active period of railroad building ever known in that section, and some facts regarding it may probably prove interesting. Quoting from the Baltimore Journal of Commerce, we learn that in the fourteen Southern States the total mileage of railroads on December 31st, 1880, amounted to 20,642 miles; on December 31st, 1885, it was 31,863.74, an increase of 11,221.74. These figures are taken from the official report. A clearer conception of the magnitude of these railroad interests will be gained if we compare the total cost of all the railroads in that section on December 31st, 1885, with the same for December 31st, 1880, as given by Poor's Railroad Manual, the standard authority upon railroad matters. It shows the cost of roads and their equipments Decem-

(CONTINUED ON PAGE 446.)

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

The Capital City Street Railway Co., Montgomery, Ala., have increased their capital stock from \$50,000 to \$75,000. They will extend their road 3 miles as previously reported.

The Birmingham Soap Works, Birmingham, Ala., recently reported as incorporated, have purchased a site for their factory.

The Bienville Water Works Co., Mobile, Ala., will begin work on their proposed water works at once. They will lay about 40 miles of pipe.

The Pratt Coal & Iron Co., Birmingham, Ala., are improving their Alice furnaces.

A brick yard will be started at Talladega, Ala., by Clarady Bros.

Boylan & Gavan have started a broom factory at Montgomery, Ala.

A company with a capital stock of \$50,000 will be organized at Sheffield, Ala., to erect a cotton compress. A. J. Moses can give information.

A furniture factory is to be built at Sheffield, Ala., by Z. Spencer. The machinery has been purchased.

The capital stock of the Eufaula & St. Andrew's Bay Air Line Railroad, reported last week as incorporated in Alabama by John McNab, of Eufaula, and others, is \$2,000,000.

The Columbus & Western Railway Co., W. G. Raoul, Savannah, Ga., president, will receive, until November 15, bids for erecting 5 piers and abutments for a bridge over the Coosa river near Childersburg, Ala., and for building two tunnels near Leeds, Ala.—one to be 1,150 feet long and the other 2,400 feet long.

A new stone quarry has been opened near Redding, Ala.

The Edwards Iron Co., Woodstock, Ala., are repairing their furnace, which has been idle some time, and will soon put it in blast.

Mr. Britt will, it is stated, move his planing mill from Eufaula to Montgomery, Ala.

J. Robins, Lower Peach Tree, Ala., will rebuild his gin, lately reported as burned. He wants prices of 15, 20 and 25-horse-power engines and boilers.

John Kirk, Raleigh, Ala., is rebuilding his grist mill and gin, reported last week as burned.

ARKANSAS.

D. H. Crèbs will erect a cotton compress at Helena, Ark.

The Jefferson Lumber Co., Pine Bluff, Ark., will erect another saw mill and have purchased the machinery.

FLORIDA.

Wynn Smith will, it is stated, establish a factory at Jacksonville, Fla., for manufacturing leather goods.

A company has been incorporated at Fort Meade, Fla., to build a street railroad, by J. G. Carter, J. A. Edwards and C. C. Wilson. It is said that work will be commenced at once.

C. Peters is enlarging his soap factory at Jacksonville, Fla., by adding new machinery.

The Creosote Lumber & Construction Co., Wilmington, N. C., previously reported to build creosoting works in Florida or Georgia, will erect them at Fernandina, Fla.

J. W. Dowling & Co., Lake Ogden, Fla., are rebuilding their saw mill, lately reported as burned. The daily capacity will be 20 M feet.

GEORGIA.

W. C. Heyward, L. S. Munford, George H. Warring and others will incorporate the Cartersville & Gainesville Air Line Railroad Company.

The United States Railway Construction Co., New York, have contracted to build the Savannah, Dublin & Western Railroad, previously reported, from Savannah to Macon, Ga., 117 miles, also the 90-mile branch from Macon to Americus, Ga.

W. B. Lowe & Co., Atlanta, Ga., have received the contract to grade 100 miles of the Augusta & Chattanooga Railroad, previously reported, beginning at Augusta, Ga.

A company has been formed at Brunswick, Ga., to start a fruit crate factory.

The Atlanta & Hawkinsville Railroad Co., previously reported as incorporated in Georgia, have commenced surveying their road from Atlanta, Ga.

P. Y. Burum & Co., Augusta, Ga., want quotations on corrugated iron roofing and siding, for a building to be erected by them.

A company will be organized at Atlanta, Ga., with a capital stock of \$50,000, to build glassworks. Secretary Manufacturers' Association, Atlanta, can give particulars.

A stock company is being organized at Fort Valley, Ga., to erect a cotton compress.

The Atlanta & Edgewood Street Railway Co. will be incorporated in Georgia.

W. E. Curry is erecting a wood-working factory at Columbus, Ga.

KENTUCKY.

John Drescher, Louisville, Ky., will rebuild his excelsior factory, reported last week as burned.

The saw mill of W. J. Hughes & Co., Frankfort, Ky., reported last week as burned, will be rebuilt at once on a larger scale.

The Henderson Cotton Mills, Henderson, Ky., are to be enlarged and improved.

The Henderson Street Railway Co., Henderson, Ky., David Banks, Jr., president, will build a street railroad soon.

The Norton Iron Works, Ashland, Ky., are considering the erection of a steel plant.

LOUISIANA.

The Edison Illuminating Co., New Orleans, La., previously reported, have let the contract for a building for their plant, to Muir & Fromherz.

A. J. McDermott is erecting a steam factory on St. Charles street, New Orleans, La., for manufacturing artificial limbs.

The Chicago Land & Cattle Co. will build a 5-mile railroad westward from Hammond, La., to open up timber lands. It is stated that a box and a furniture factory will be erected at the western terminus.

A saw mill has been erected at Hammond, La., by O. P. Loudon.

Mr. Edmundson is erecting works at Hammond, La., for manufacturing tiles.

MARYLAND.

The contract to build an annex to the State House at Annapolis, Md., has been received by George H. Morrow & Co., of Baltimore, at \$47,565.

MISSISSIPPI.

A furniture factory is contemplated at Meridian, Miss.

W. S. Kuhn has contracted to build the water works at Meridian, Miss., reported last week. The mayor can give particulars.

NORTH CAROLINA.

S. H. Emmens, of London, England, previously reported with others as to erect a smelting plant at Salisbury or Gold Hill, N. C., has incorporated a company at Lexington, to erect the plant in Davidson county. C. C. McPhail will be superintendent.

The Gold Hill Mining Co., Gold Hill, N. C., have repaired their machinery and will erect a 30-horse power hoisting engine.

James I. Lane, Ore Hill, N. C., has purchased machinery for a flour mill.

Machinery for a flour mill has been recently purchased by Kerr & Hanna, Charlotte, N. C.

Griffin & Trogon contemplate erecting the tobacco factory at Liberty, N. C., reported last week.

Mayhew & Atwell, Mount Mourne, N. C., have purchased an outfit of machinery for a flour mill.

The Baltimore & North Carolina Mining Co. have purchased considerable new machinery for their mines at Matthews, N. C.

Thompson Bros., Tyro Shops, N. C., contemplate starting a foundry and agricultural implement factory at Salisbury.

SOUTH CAROLINA.

The Orangeburg & Lewiedale Railroad Co., previously reported as incorporated in South Carolina, have organized at Orangeburg with R. C. Barkley as president, A. S. Hydrick, vice-president and J. E. Bull, secretary and treasurer. They will survey their road at once.

Ross & Center will start a distillery near Gowensville, S. C.

TENNESSEE.

The \$50,000 stock company lately reported as formed at South Pittsburgh, Tenn., to build pipe works, has been organized with G. E. Downing as president and treasurer, James Bowron, of Nashville, vice president and W. R. Townsend, secretary. Work has been commenced.

B. A. Jenkins, Charles Dawes, C. Cullen, W. H. Geers, J. N. Quaife and others have incorporated at Knoxville, Tenn., the Frankland Foundry & Manufacturing Co., to manufacture stoves, plows, &c.

It is reported that the Scates Warm Air Furnace & Manufacturing Co., Nashville, Tenn., contemplate moving their plant to some other city.

The flour mill of Alexander Mansfield, Dunlap, Tenn., is being improved.

The address of H. H. Squair & Co., reported last week as having received the contract to build the branch of the Louisville & Nashville Railroad from Bardstown to Springfield, Ky., is Nashville, Tenn. The road will be about 20 miles long.

The Iron Mountain Railroad Co., previously reported as incorporated at Memphis, Tenn., to build a railroad around that city, has been organized with R. J. Morgan as president, and L. B. McFarland, secretary. They will build their freight depot on Calhoun street.

The Lookout Ice Co., Chattanooga, Tenn., have purchased machinery to increase their capacity from 15 to 45 tons per day.

The Grayson Marble Co. is being organized to develop 71 acres of marble land at London, Tenn., by H. S. Probasco, of Chattanooga, and others.

The contract to erect the large 4-story building for Griffiths & Caldwell, Chattanooga, Tenn., previously reported, has been let to J. R. Taylor.

A wagon factory is being erected at Columbia, Tenn.

The Nolachucky River Improvement & Booming Co. has been incorporated at Erwin, Unico county, Tenn.

It is stated that McGregor, Higgs & Co., of Indianapolis, Ind., and others have purchased 20,000 acres of timber lands in Houston county, Tenn., and will erect saw mills and wood-working factories at or near Erwin.

Ristine, Campbell & Co., Chattanooga, Tenn., will build a large addition to their furniture factory to increase its capacity.

McLemore & Bro., Columbia, Tenn., are repairing their flour mill and will put in a new engine.

The Mobile & Ohio Railroad Co. will put a new 120-horse-power engine in their shops at Jackson, Tenn.

It is stated that a large sanitarium will be erected near Chattanooga, Tenn.

TEXAS.

Paris, Texas, will issue \$20,000 of bonds to build a city hall. A committee has been appointed to select a site.

The Texas & Pacific Railroad Co. will build an additional car shop, 40x130 feet, at Marshall, Texas.

Boyd & Webster, Dallas, Texas, lately reported as enlarging their planing mill and putting in new machinery, contemplate erecting a new mill next year.

The Texas Spring Bed Co., Dallas, Texas, wants the address of parties who make machinery for manufacturing excelsior.

James B. Smith, Austin, Texas, has commenced developing a lithograph-stone quarry in Burnet county.

The Bastrop & Taylor Railroad Co. have changed their name to the Taylor, Bastrop & Houston Railroad Co., and increased their capital stock from \$300,000 to \$2,020,000. They will extend their road from Bastrop to Houston.

The Wichita Falls & Winfield Railway Co., capital stock \$20,000, has been incorporated in Texas, with Isaac Jalowick, J. S. Mayfield, R. E. Huff, W. A. McCutcheon, John G. James, C. J. Green, G. T. Knott and others as directors.

F. H. Ralph, Columbus, Texas, contemplates erecting refrigerating works at San Antonio.

VIRGINIA.

Ray & Ferguson, Lynchburg, Va., are enlarging their building factory.

Roanoke, Va., has decided by popular vote to subscribe \$100,000 to the capital stock of the Craig Co., of New Castle, which insures the building of that company's railroad to Roanoke.

Henry Lengle will start a broom factory at Claremont, Va.

McMannis & Twedell have started a brick yard at Claremont, Va.

The Low Moor Iron Co., Low Moor, Va., it is stated, have decided to erect the additional furnace previously reported as contemplated by them. It will be 20 feet bosh.

The Augusta Agricultural Works, Staunton, Va., previously reported as organized, have bought the Staunton Iron Works, and are putting in new machinery. I. Witz is president; M. A. Booker, vice-president, and L. C. White, superintendent.

LOCKWOOD, GREENE & CO. MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I., Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

WEST VIRGINIA.

The Cumberland, Moorefield & South-western Virginia Railroad Co., has been incorporated in West Virginia, to build a railroad from Cumberland, Md., to Moorefield, W. Va. The capital stock is \$100,000.

The Wheeling Natural Gas Co., of Wheeling, W. Va., will soon begin drilling wells.

The Pittsburgh, Cincinnati & St. Louis Railway Co. (office, Pittsburgh, Pa.) are double tracking 8 miles of their road in West Virginia. The company have surveyed and will soon begin work on a branch road from Holliday's Cove to New Cumberland, W. Va.

It is reported that new machine shops will be built by A. C. Osborne, Clarksburgh, W. Va.

BURNED.

The mill of John Adams, Ackerman, Miss., loss about \$5,000.

The mill of Philip R. Wilhoite, near Normandy, Tenn., loss \$6,000.

The gin and grist mill of Jere Dunkin, near Selma, Ala.

The planing mill of Mr. Dyer, Washington, D. C.; loss \$7,000.

The saw and planing mill and gin of Ware & Sheely, Providence, Fla.

The saw mill of S. M. Ferguson, in Bladen county, N. C.; loss \$1,500.

The coffee roasting establishment of P. Meehan, 200 North Eden street, Baltimore; loss \$2,500.

The saw mill, corn mill and gin of L. Jones, Yorkville, Tenn.

The gins of B. F. Rawling, Sandersville, Ga.; John T. Wood, 6 miles from Madison, Ga.; J. W. Jacobs, Lake Village, La.; John Clark, Clarksdale, Miss.; J. W. Moore, Sparta, Ga.; Stewart & Webb, Amberton, Ala.; John G. Andrews, near Whitesville, Ga.; A. Middlebrooks, in Monroe county, Ga.; J. W. Powell, Harlem, Ga.; W. J. & H. R. Lewis, near Inverness, Ala.; Martin & Fowler, in Greeneville county, S. C.; Henry W. Johnson, in Dougherty county, Ga.; S. E. Thomas, near Edwards, Miss.; Joseph Mansell, Lime Branch, Ga.; Ivy Till, in Orangeburg county, S. C.; W. R. & H. R. Lewis, Union Springs, Ala.; Taylor & Williamson, Butler, Ga.; J. L. Johnson, Cherokee Bay, Ark.; A. C. Sanders, near Milo, Ala.; O. P. Robinson, 16 miles from Little Rock, Ark., and J. W. Steward, near Ruston, La., have been burned.

Contract Awarded.

HOT SPRINGS, ARK., Oct. 27, 1886.

Editor Manufacturers' Record:

The contract to build the Pulaski county courthouse has been awarded to me, and I will commence work on it at once.

J. M. BROWN.

Will Rebuild.

LOUISVILLE, KY., Oct. 29, 1886.

Editor Manufacturers' Record:

I will rebuild my excelsior factory.

JOHN DRESCHER.

Information Wanted.

AUGUSTA, GA., Oct. 27, 1886.

Editor Manufacturers' Record:

P. Y. Burum & Co. are about erecting a building 40x45 feet, and desire quotations on corrugated iron roofing and siding.

R. CUSTER & Co.

CHATTANOOGA, TENN., Oct. 26, 1886.

Editor Manufacturers' Record:

In addition to my plating and novelty works, I am building a small brass foundry for light castings in that line, as we have no exclusive brass foundry in this city. I have also added a coppersmith shop with my brass works, and expect to enlarge my buildings in the spring.

JOHN A. LEE.

Erected New Distillery.

LOUISVILLE, KY., Oct. 27, 1886.

Editor Manufacturers' Record:

We have in the last few months completed the new Rich Grain Distillery at Uniontown, Ky., together with a fine grain elevator, warehouses, cattle pens, etc., at an outlay of over \$60,000. It is one among the most complete distilleries in our State; built of brick and iron, with steel mash tubs, etc.

RICH GRAIN DISTILLERY CO.

To Build Two Branch Railroads.

LOUISVILLE, KY., Oct. 27, 1886.

Editor Manufacturers' Record:

We have awarded to Messrs. H. H. Squair & Co., of Nashville, Tenn., the contract for the construction of what will be known as our "Springfield Branch," being a line from Bardstown, Ky., to Springfield, Ky., a distance of about 20 miles; road to be completed July 1st, 1887. We have also recently let contract for the building of a line from Corbin Station, Ky., on our Knoxville line, to Pineville, Ky., distance of about 30 miles, to be completed and open for business not later than September, 1887. The contractors in this case are Messrs. Mason, Hoge & Co., of Frankfort. M. H. SMITH.

New Machinery.

DALLAS, TEX., Oct. 25, 1886.

Editor Manufacturers' Record:

We are at present engaged in putting in a new steel boiler (60 horse-power) and engine (40 horse-power). Have added several new machines this year and will purchase more, gradually retiring all old machinery and supplying their places with new and improved machines. We contemplate the erection of a new mill building in 1887.

BOYD & WEBSTER.

Will Rebuild Saw Mill.

FRANKFORT, KY., Oct. 30, 1886.

Editor Manufacturers' Record:

We intend to begin rebuilding right away. Will build a much larger mill than before.

W. J. HUGHES & Co.

Rebuilding Saw Mill.

LAKE OGDEN, FLA., Oct. 27, 1886.

Editor Manufacturers' Record:

We are rebuilding our mill and contemplate running it again very soon at its usual capacity of about 20 M feet per day.

J. W. DOWLING & Co.

Enlarging Gas Works.

ROME, GA., Oct. 29, 1886.

Editor Manufacturers' Record:

We are putting in a bench of 3 retorts, a new holder and 1,000 feet of mains, and thoroughly overhauling works.

ROME GAS LIGHT CO.

FORT WORTH, TEXAS, Oct. 23, 1886.

Editor Manufacturers' Record:

Construction will commence on the Fort Worth & Rio Grande Railway in about 10 days. The line is from Fort Worth to Brownwood, a distance of 127 miles.

B. B. PADDOCK.

Improving Salt Works.

SALTVILLE, VA., Oct. 27, 1886.

Editor Manufacturers' Record:

We are changing our method of making salt by putting in ten 80-horse-power boilers, and using steam pipes instead of kettles, as heretofore. We expect to increase the output of salt to one and a half million bushels of salt. Two of the boilers are now in place, and will be at work in 30 days. We expect to cheapen the cost of salt very much, and be able to compete with foreign salt.

PALMER, CARPENTER & Co.

Will Probably Double Capacity.

DALLAS, TEXAS, Oct. 25, 1886.

Editor Manufacturers' Record:

We will probably double our capacity the present winter; not that we find milling so profitable, but because milling is so close in Texas, that to be profitable it must be done on a large scale.

EMPIRE MILLS.

Machinery Wanted.

BALTIMORE, Oct. 30, 1886.

Editor Manufacturers' Record:

I want to buy a second-hand engine lathe for a customer; must be cheap and 50-inch swing, 14-foot center.

WM. C. CODD.

To Build Water Works.

MERIDIAN, MISS., Oct. 27, 1886.

Editor Manufacturers' Record:

Our city has contracted with W. S. Kuhn for water works.

THOS. H. GRIFFIN.

A Furniture Factory and a Compress to be Built.

SHEFFIELD, ALA., Oct. 30, 1886.

Editor Manufacturers' Record:

Z. Spencer is to erect a furniture factory at Sheffield, machinery now being on the way. A cotton compress company, with \$50,000 capital, will put up a compress at an early day.

A. J. MOSES.

FT. VALLEY, GA., Oct. 29, 1886.

Editor Manufacturers' Record:

There is a stock company being organized for the purpose of building a cotton compress, and they intend to have it in readiness for the next season's cotton crop.

F. S. WILLER.

ANNISTON, ALA., Oct. 28, 1886.

Editor Manufacturers' Record:

We are putting up two new furnaces, one puddling and one heating furnace, and one new hammer helve. The Alabama Car Works have also reorganized and will soon be prepared to build cars.

NOBLE BROS. & Co.

SAVANNAH, GA., Oct. 29, 1886.

Editor Manufacturers' Record:

The extension of the Columbus & Western has been decided upon from Goodwater to Birmingham, Ala., a distance of about 68 miles. Part of the contract has been let.

W. G. RAOUL, Pres't.

EUFULA, ALA., Oct. 28, 1886.

Editor Manufacturers' Record:

We have chartered the Eufaula & St. Andrew's Bay Air Line Railroad, capital stock \$2,000,000. The work or organization, &c., is progressing rapidly and satisfactorily.

W. N. REEVES.

Will Build Street Railroad.

FORT MEADE, FLA., Oct. 28, 1886.

Editor Manufacturers' Record:

There is a street railway to be built at once here. The incorporators are J. G. Carter, J. A. Edwards and C. C. Wilson.

R. C. LANGFORD.

AUSTIN, TEX., Oct. 29, 1886.

Editor Manufacturers' Record:

We have commenced operations on a lithographic stone quarry in Burnet county.

JAMES B. SMITH.

Information Wanted.

DALLAS, TEXAS, Oct. 27, 1886.

Editor Manufacturers' Record:

Can you give me the address of any one who is making machinery for the purpose of manufacturing excelsior.

TEXAS SPRING BED CO.

A Steam Laundry.

MONTGOMERY, ALA., Oct. 28, 1886.

Editor Manufacturers' Record:

I have just established a Laundry plant of about \$2,600, and have the only steam laundry in town. Mr. J. C. Lee is superintendent. We use the A. M. Dolph & Co., and Troy Laundry Co., Limited, machinery.

TROY STEAM LAUNDRY,

F. B. BIGELOW.

KEY WEST, FLA., Oct. 27, 1886.

Editor Manufacturers' Record:

We have started two factories in this city. Will devote one to making cigars out of Havana tobacco all through, and another to cigars with Havana filling and Sumatra wrapper.

J. E. CARTAYA & Co.

Will Develop Marble Quarry.

WELCKER MINES, TENN., Oct. 29, 1886.

Editor Manufacturers' Record:

Mr. J. D. Roberts, of the firm of Roberts, Winton & Co., bought a marble quarry 3 miles above London. Will begin work about January 1, and will ship to Chattanooga on barges.

ROBERTS, WINTON & Co.

Erected Saw Mill.

IRVING COLLEGE, TENN., Oct. 29, 1886.

Editor Manufacturers' Record:

We have erected a saw mill in Warren county—a 20-horse-power C. & G. Cooper's make—and are sole owners and proprietors.

LEWIS MILLS & SON.

CHATTANOOGA, TENN., Nov. 1, 1886.

Editor Manufacturers' Record:

The Grayson Marble Co. is organizing. Will operate in Monroe county, Tenn. Have 71 acres of marble land.

H. S. PROBASCO.

Prices of Machinery Wanted.

LOWER PEACH TREE, ALA., Oct. 30, 1886.

Editor Manufacturers' Record:

Gin, etc., were burned, as reported. I will rebuild immediately. I want some good house to send me price-list, etc., of 15, 20, 25 horse-power stationary engine and boiler.

J. ROBINS.

CARTERSVILLE, GA., Oct. 30, 1886.

Editor Manufacturers' Record:

W. Izard Heyward, Geo. H. Waring, L. S. Munford and M. A. Hardin will apply for a charter to the Georgia legislature to incorporate the Cartersville & Gainesville Air Line Railroad in this State.

W. I. HEYWARD.

Will Rebuild Hotel.

SHERMAN, TEXAS, Oct. 28, 1886.

Editor Manufacturers' Record:

Will rebuild as soon as insurance is adjusted and stockholders can be called together.

SHERMAN HOTEL CO.

Rebuilding Grist Mill.

RALEIGH, ALA., Nov. 1, 1886.

Editor Manufacturers' Record:

My grist mill and gin were burned. I am rebuilding now.

JOHN KIRK.

Duty on Iron Ore.

The decision of the Secretary of Treasury, relating to the importation of iron ore in a dried condition, has aroused the ore miners of this country, and Assistant Secretary Fairchild has received a telegram from the Western Iron Ore Association, which claims to represent the production of over three million tons of American iron ore this year, protesting against this decision. They assert that the iron ore of commerce is never bought and sold dry at a temperature of 212 deg. F.; that universally and everywhere it is sold by the ton, with whatever moisture may be in it when it comes to market. They add, "the effect of such a construction of the law would largely reduce the rate of duty on foreign ores, and operate most injuriously on the vast amount of American capital and the hundreds of thousands of American laborers engaged in American ore production." The Department declines to suspend the operation of the decision, but promises to consider any evidence or arguments that may be submitted.

New Spoke Lathes.

The Improved Automatic Spoke Lathe shown in accompanying cut is from the works of the Egan Co., of Cincinnati, Ohio.

The bed or frame is very wide and heavy, with the V placed some distance back of the center line of cutter-head; this allows the belt to press the front of carriage down to V as it travels along. The bed is also constructed in such a manner that no chips can accumulate on top to obstruct the rollers.

The sliding carriage has four rollers with large journals, held in position by large collars on the outside; the carriage is provided with adjustable gibs to main frame, thus preventing any side play; the standards carrying the cutter-head are bolted to carriage on planed surfaces, thus making a very strong and reliable cutter-head frame.

The head is entirely new, a combination of

end of the spoke, the vibrating frame being there automatically thrown forward, and and returns to the operator in this position ready for another spoke.

The countershaft is made square, each end being turned down for pulleys and bearings, giving ample wearing surface for sleeve to work over, thus dispensing with the trouble and annoyance of having a key seat in shaft.

This machine is built by the Egan Co., 228 to 248 West Front street, Cincinnati, O.

All the cutting and knurled wheels are forged from Jessop's best tool steel in flat shapes; not cut from round bars, and turned to shape without previous refining.

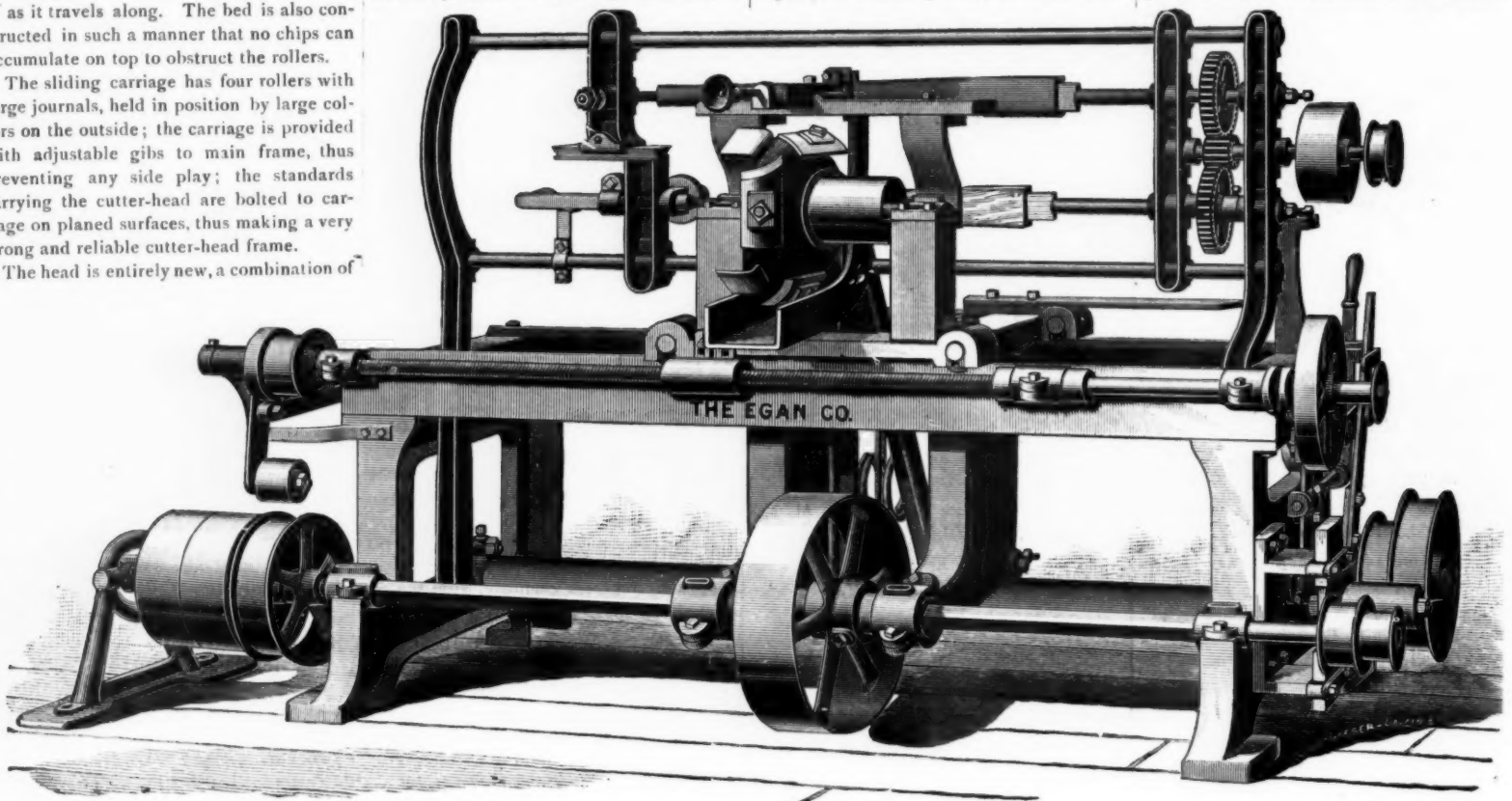
Each size of tool is made to exact gauge and pattern, consequently all similar parts are interchangeable.

To prevent loss of parts by reason of taper pins becoming loose, the manufactur-

England's Early Industries.

Prof. Waterhouse, of Washington University, St. Louis, who was recently elected the Missouri secretary of the American Protective Tariff League of New York, sends us the following significant extract:

"Struck with the flourishing state of these provinces, (the Netherlands,) of which he



IMPROVED AUTOMATIC SPOKE LATHE.

hook and gouge knives; the entire surface is turned true, with large crucible steel mandrel and long journals, making a very reliable and perfectly balanced cutter-head.

The vibrating frame, which is cast with a core, (hollow,) is connected at the top by hydraulic pipe, combining strength with lightness for vibrating. Adjustable trunnion boxes are provided to change the size of spoke. The gearing is cut from the solid, the center one being of wrought iron with double width of face, to enable the operator to change the shape of spoke. The centers are made of best cast-steel, fitted to large steel mandrels; the back center bearing is so constructed that various lengths of spokes can be turned from one pattern, a very desirable feature for any spoke factory. The eccentric center is very large, requiring no ratchet to keep the spoke in position while being turned.

The spring pressure bar is provided with three cast-steel coil springs, connected to carriage with slide working in planed ways operated by hand-wheel and screw, and so constructed that anything from the smallest buggy spoke to the largest wagon spoke can be turned with ease. All the vibrating rests are made of steel.

The feed screw is made of steel, with an adjustable nut to take up any wear that may occur.

The feed mechanism is very simple and reliable, and is constructed so as to change the speed of feed at the throat of spoke, but, with a slight change, can be made to feed at one rate of speed the full length of spoke, which will be found a great advantage. By pressing a small lever the feed can be stopped in any desired position along the spoke for setting the rests or truing the knives.

Some of the advantages of this lathe are its simplicity of belting and its great convenience. The operator does not leave his position at the eccentric lever, but places the stock to be cut between the centers and raises one lever; the carriage, with cutter-head attached, travels along the bed to the

The Peerless Pipe Cutter.

One essential requirement in pipe cutters is a practical means of removing or reducing the burr. In the Peerless cutter, shown

ers have adopted and use exclusively hardened steel screws, on which the cutting and knurled wheels revolve.

To cut pipe overhead, close to a wall, in a corner, in ditching, or in any other con-

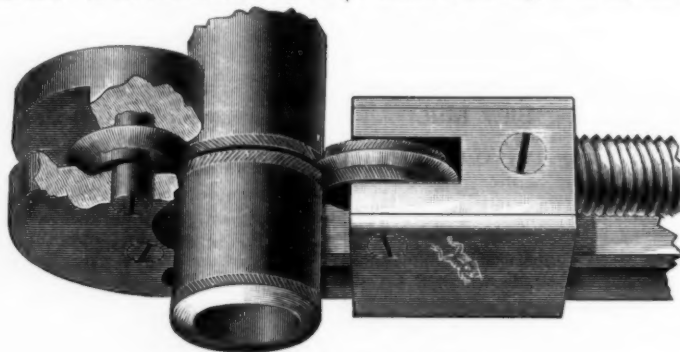


FIG. 1.—THE PEERLESS PIPE CUTTER.

in the accompanying cut, a simple and effective provision is made on the adjustable

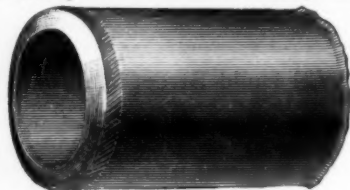


FIG. 2.

cutter-wheel by knurling its edges, which, in revolving around the pipe being cut, break



FIG. 3.

up and compress the burr so that the ends of the pipe will receive the threading dies without any filing or other preparation, as will be seen from the illustration below.

tracted space or situation where it is impracticable to carry the cutter completely around the pipe or tube, it is simply necessary to replace the knurled wheel, with the extra cutting wheel provided for the purpose, and then one-third of a revolution of the tool will cut the entire circuit of the pipe.

Further information concerning the Peerless cutter may be had from Wm. C. Codd, Baltimore, Md.

THE Northwestern Miller has earned a wide reputation for its magnificent Christmas numbers. The forthcoming Holiday Number will be profusely and elaborately illustrated. It will contain a hundred pages of miscellaneous and scientific matter, including Stories, Sketches, Essays and Reviews—prepared especially for this number. The covers are being engraved by the American Bank Note Co. Among the more prominent contributors to this annual, will be Julian Hawthorne, Joel Benton, James Lane Allen, Charles Barnard, Richard M. Johnston and Louis H. Gibson. The humorous features will be provided by Eugene Field, Robt. J. Burdette, Bill Nye and Jas. Whitcomb Riley. This will be the fourth holiday number of the Northwestern Miller and its publisher expects it to achieve even greater success than the last.

discerned the true cause, Edward III of England endeavored to excite a spirit of industry among his own subjects, who, blind to the advantages of their situation, and ignorant of the source from which opulence was destined to flow into their country, were so little attentive to their commercial interests, as hardly to attempt those manufactures the materials of which they furnished to foreigners. By allowing Flemish artisans to settle in his dominions, as well as by many wise laws for the encouragement and regulation of trade, Edward gave a beginning to the woollen manufacturers of England, and first turned the active and enterprising genius of his people toward those arts which have raised the English to the highest rank among commercial nations."—Robertson's History of Charles V, vol. 1, page 94.

Prof. Waterhouse add: "It was under the auspices and impulse of a protective tariff that England began its extraordinary career of manufacturing greatness. Never, throughout its industrial history, has it adopted the system of absolute free trade, nor did it materially relax the rigor of its tariff laws, till, under the fostering influences of a protective policy, its accumulation of wealth, improvements in machinery, acquisition of technical skill, and employment of cheap labor in the development and utilization of its mineral resources had achieved for it a recognized ascendancy in the manufactures and markets of the world."

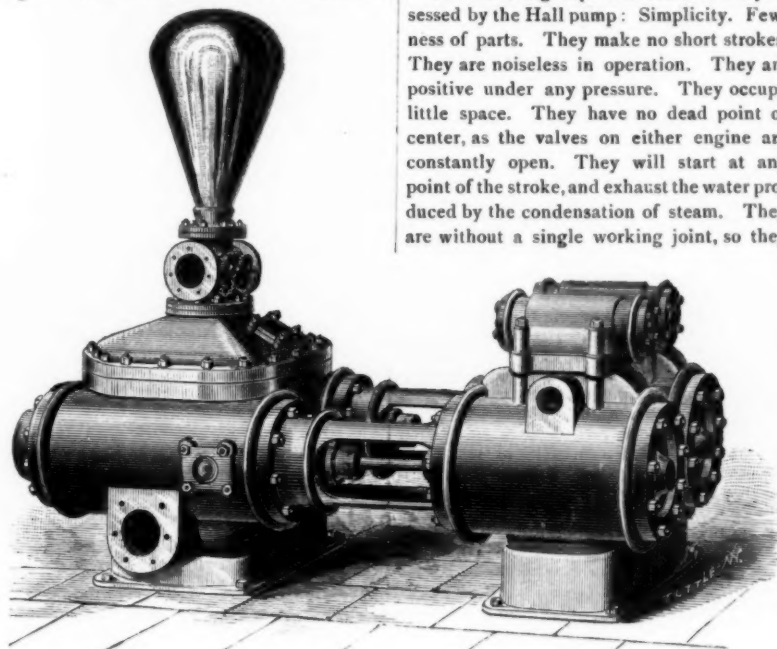
When nations encourage the establishments of new industries and foster them until perfected and able to compete with the world no tariff laws are needed.

America once had a duty upon raw cotton, but it is unnecessary now, as is a duty upon prints and coarse cotton goods, any further than the difference in the wages of paid labor is concerned.

England, by taking duties off from silk manufactures and sugar refining, has destroyed those industries in that country, while by taking the duty off provisions and raw material she has given her manufactures the most favorable conditions of manufacture possible. She raises no raw material or but little, and thus loses nothing, but she has largely crippled the Irish flax and other Irish industries.

The Hall Duplex Steam Pump.

The annexed sectional cut illustrates the interior arrangement and construction of the steam valves, water cylinder, etc., of the Hall Duplex Steam Pump, the operation of which is as follows: The engine of one division acts to operate the steam valve of the other, and *vice versa*. In the cut the steam valve (a plain flat side) stands at the right of its stroke, admitting steam to the left of the main piston, moving it to the right. When the piston nearly reaches the



HALL DUPLEX STEAM PUMP—PLUNGER PATTERN.

end of its stroke and passes by the port B, (seen near the top of the cylinder,) a sufficient portion of the pressure, which is moving the main piston, passes through this port across to, and shifts the valve of, the other engine, which then makes its stroke, and in a like manner admits steam to reverse the valve of the former. It will thus be seen that by proper location of the ports corresponding to A and B, in each cylinder, each engine must in its turn make a full stroke before giving steam to reverse the valve of the other, the admission of steam, however, being timed so that each engine starts a little before the other stops, thus keeping up a continuous and uniform delivery of water. This entirely obviates the difficulty of short

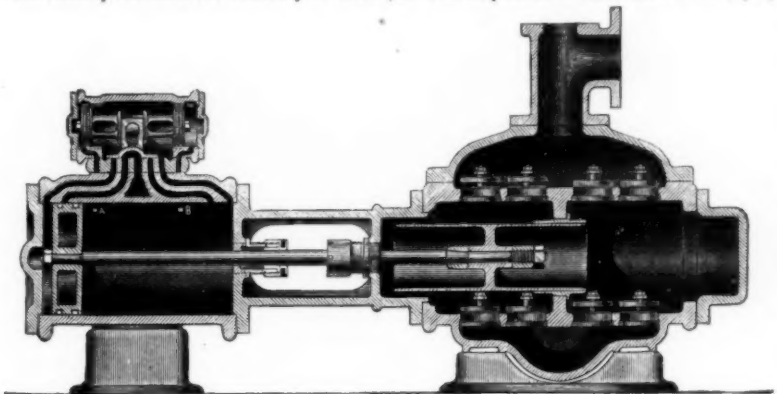
in fact, being so effective that the whole load against which the pump is working may be suddenly thrown off, while having on a full head of steam, without any danger of the piston striking the cylinder heads or in any other way injuring the pump.

The water ends, either piston or plunger pattern, are of the latest and most improved design. The valves are also of simple and approved form, being plain flat disks of composition, or hard or soft rubber, working with a low lift upon a central stem.

The following important features are possessed by the Hall pump: Simplicity. Fewness of parts. They make no short strokes. They are noiseless in operation. They are positive under any pressure. They occupy little space. They have no dead point or center, as the valves on either engine are constantly open. They will start at any point of the stroke, and exhaust the water produced by the condensation of steam. They are without a single working joint, so they

can be run at high speed with the smallest amount of friction. There are no mechanical devices whatever to operate the steam valve. Thus there can be no derangement of valve gear from sudden starting, high speed, or from continued rough usage.

The valve mechanism of each engine consists of but two moving pieces—a common, D, slide valve, and a small steam piston by which the slide valve is moved. As this piston is sure to get a direct pressure of steam at the proper time to move it, it is absolutely positive, and as certain of action, as the main piston of any engine. The working parts are inclosed, and beyond the control of vicious or meddlesome persons, as well as protected from accidental injury.



HALL DUPLEX STEAM PUMP—SECTIONAL VIEW OF PLUNGER PATTERN.

strokes and consequent waste of steam, so common in single and some types of duplex pumps.

The location of the ports A and B, near the end of the stroke of the pistons, causes each in its turn to pause (while the other is making its stroke) for a length of time sufficient to allow the seating of the pump valves by gravity instead of by the action of the return currents.

The steam pistons cushion upon exhaust steam entrapped in the ends of the cylinders, by reason of the pistons passing beyond the exhaust ports, the inlet ports at the ends of the cylinder being closed by the main steam valve, the cushion of the pistons,

The general arrangement and construction of these pumps allow of a high rate of speed without noise, shock or jar.

The Hall Duplex Steam Pumps are very thoroughly constructed. All stuffing boxes, lining in water cylinders, plungers, valve seats and stems are of composition. In order to compensate for wear, unequal expansion, or any irregularity of the chest, the valve drivers are fitted at each end with spring-ring packing, of a non-corrosive metal, working in a cylinder bushed with the same material, thus preventing leakage of steam or rust from long standing. All parts are made to gauge, so as to be interchangeable. Every machine is thoroughly tested to the duty for which it is sold, and guaranteed to perform the duty with ease and certainty.

There being no secondary or auxiliary valves or valve-moving devices in this pump to corrode and stick and get out of order, there can be no failure of steam to reach and move the valves; the admission being controlled by the main piston of one engine passing a port in the roof of its cylinder, thus admitting the direct pressure of steam from the boiler upon the piston (arranged above the valve and connected to it by a lug cast upon its back) in the chest of the opposite engine, by which the motion becomes as positive as that of the main piston of any engine.

The direct acting duplex pump is extensively used for moving large bodies of water under heavy pressure. In action it is as follows: As one engine nears the end of its stroke it acts to move the valve and start the other, after which it completes its own stroke and waits until the other nears the end of its stroke and acts to move the valve of the former, which then starts on the return motion. This movement permits of a pause of each plunger, allowing all the water valves to seat themselves quietly by gravity, instead of being lashed back by the action of the return currents, produced by the sudden reversal of the plunger. The duplex has a smooth, quiet action, with continuous flow. Difficulty has been experienced in some duplex pumps by the variation of the resistance or friction in the two engines, causing the plungers to make short strokes, which has the effect of producing a water hammer, waste of steam and capacity. In the Hall Duplex Pump this defect, it is claimed, is entirely overcome by the form of steam valve motion employed, making a short stroke impossible. In duplex pumps, the work being divided between two engines, the wear is also divided, thus prolonging the life of the pump. Messrs. Saml. R. Waite & Co., 40 Hughes street, Baltimore, are the Southern agents for the Hall Pump.

A Prosperous North Carolina Town.

HENDERSON, VANCE COUNTY, N. C., }
October 29, 1886. }

Gladly accepting the invitation of a large number of the prominent citizens of Henderson, we (one of a party of thirty who have been attending the convention at Raleigh) have been spending the day in this busy bustling place, enjoying the hospitality of its people, questioning the business men, peeping into its churches and stores, studying as well as we could the whys and the wherefores of the progress and activity everywhere manifested.

I ached to see Durham, whose fame had penetrated my home in Pennsylvania wilds, but as my better-half insisted on Henderson I yielded the point. In our party were several gentlemen who have been prominent in the convention, chief among whom were Hon. George L. French, its president, and Major Wm. M. Pegram, of your editorial staff. I wish to make it a matter of RECORD that everybody is paying compliments to the major for his contribution to the fund of information we laid by in store while at Raleigh. His address last Thursday ought to be printed in full and given to the people of all sections. Facts like those he substantiated ought to be known by every considerable man of business, as well by politicians, bankers and cotton commission merchants.

But about Henderson, for of that I began to write. We arrived here at 10 o'clock by a special train, in charge of Capt. F. W. Clark and Capt. Smith, two gentlemanly officers of the Seaboard Air Line, whose pleasant attentions none of us will ever forget. At the depot we were taken in charge by Mr. Thad. E. Manning, editor of the Gold Leaf, and by a committee of the Tobacco Board of Trade, who escorted us to a huge tobacco warehouse, where, picking our way around piles of golden leaves, and among farmers, buyers, auctioneers and helpers, we finally came to a standstill in a corner, toward which everybody hastened. There we were welcomed graciously by Colonel Cheek, a prominent lawyer of Henderson, and then Professor Corlew, of Charlotte, responded for us. There were others ready to follow, but somebody shouted: "The sale is about to begin," and instantly every one broke away and hurried pell-mell to the first heap of the

long row of tobacco that lay near the farther wall of the warehouse. "Farmers will please stand back to give the buyers room," shouted the auctioneer, and in the same breath he began the liveliest clacking ever made by man's tongue. None of us ever saw or heard the like. The auctioneer was a tall, slender, pale-faced, wiry and surprisingly active man. While his tongue was running with lightning speed, his eyes saw every buyer's face, noted every nod and wink, and he knew (by intuition apparently) when the bids had reached the highest point and in the same instant declared the sale and offered the next lot. He must have sold at the average rate of fifteen piles a minute, perhaps more. There was no pause anywhere. The procession of buyers passed steadily down the row to its end, moved up the next, down the third, and so on until everything on that immense floor had been sold. Meanwhile there was the continual rumble of hand trucks, carrying out from one side and taking in at the other. The men rolling them were adepts; it was a sight to see them rush up to the proper place with a load of leaves neatly arranged in a circular heap, stop there, give the truck a tilt that sent the load sliding to the floor, and then slip the truck to one side without in the least disturbing the form of the pile. Outside were carts of all sizes and shapes, laden with tobacco, every owner awaiting his turn to drive to one of the doors and unload. Two hundred farmers, white and black, were there with their "crap" of golden leaves. Some drove mules, some horses, and many of the negroes had only a puny steer hitched between the shafts. Some who had long to wait picketed their stock to give them a feed. It was a lively scene, filled with novel and picturesque groups. What was our surprise to find later that it was an every day occurrence at the three warehouses of Henderson, and will be at a fourth that will shortly be opened.

"How much tobacco is sold in this market?" some one asked. "Here are last year's figures," said Editor Manning, as he handed us a printed statement. From this we learned that Henderson began to be a tobacco market in 1872, in which year 300,000 pounds were sold. On the 31st of December, 1885, the statistics footed up sales of 8,158,132 pounds for the 12 months then ending. All this tobacco was brought to the warehouses by the farmers of Vance and of the surrounding counties. There are thirty buyers constantly in attendance at these sales. From \$5,000 to \$8,000 are daily paid out to the farmers. "No wonder," said one of the party, "that this county is 'spruceing up.' It don't look as it did when I was here in '65. Golden tobacco is a great civilizer, and I only wish all the disciples of Dr. Trask could see what we are now seeing."

But Henderson does not live by tobacco alone. Her merchants buy from 5,000 to 6,000 bales of cotton annually, and large quantities of corn, small grains and country produce. Last year there was much building done, including 23 brick stores, 8 leaf tobacco factories, 61 dwellings and 2 brick churches. The whole number of leaf tobacco factories is 61, and besides these there is a sash and blind factory, a planing mill, an iron foundry and plow factory, and many others. There are five Protestant churches of various denominations and an unusual number of schools. The population within the corporate limits is about 3,000. Besides all these, Henderson has a paper, The Gold Leaf, whose editor is up to the times, and works with his might for her interests. We are indebted to him for many attentions that have made our visit here both instructive and delightful.

Before we had finished Henderson the sale at the warehouse ended, and dinner was announced. Escorted by the principal citizens, we proceeded to a large hall, where some forty young ladies of St. John's Guild awaited us, and, as soon as we were seated, waited upon us. Such a bounteous repast! The finest spread of the season was before us, tastefully arranged and still more tastefully served. Hungry as we all were, some of us noticed that the juniors of our party soon lost their appetites, for all their thoughts were of those pretty Henderson girls. One of these youngsters (a Baltimorean) felt unable to leave without a souvenir of the occasion, and begged so earnestly for one of the dainty caps worn by our fair attendants that he secured it. There was no time for speech-making after dinner, for the special train was ready, so all bound for Raleigh got aboard, and as the train rolled away from the station they gave three parting cheers for their kind entertainers. We, half a dozen left over, are about to get aboard the cars for Portsmouth and home.

A NORTHERN VISITOR.

Progressive North Carolina.

The Old North State Takes the Lead in an Important Work. The Settlers' Convention.

[Special correspondence MANUFACTURERS' RECORD.]

RALEIGH, N. C., Oct. 29, 1886.

The Settlers' Convention, which has been in session three days in this city, finished its labors at 11 o'clock last evening and adjourned *sine die*. In the short time at my command it will be impossible to give more than a *resumé* of the proceedings, the whole of which will be published in the November bulletin of the Department of Agriculture, and 50,000 copies be struck off for gratuitous distribution.

The first session was held Tuesday evening at 8.30 o'clock in the hall of the House of Commons at the Capitol. Half an hour earlier the Northern visitors and journalists assembled in the Senate Chamber, where they received a cordial welcome from the Northern settlers, voiced by Mr. John T. Patrick, commissioner of immigration, who informed them also of the programme for the following days. Having selected gentlemen to respond for both classes of visitors to the addresses of welcome that were awaiting them, they adjourned the Commons' Hall and took seats as members of the convention. The assembly, numbering several hundred, comprised prospectors and editors from the North, and citizens of the State, both native and adopted. The meeting was called to order by Mr. S. S. Jackson, of Raleigh, president of the Wake County Settlers' Association, who, in a few brief sentences, explained the form of organization prepared for the convention. Prayer was offered by Chaplain Shively, a maimed veteran of the Union, who has long been superintendent of the National Cemetery in this city. The convention, by unanimous vote, accepted the nominations made by the committee of arrangements, *viz*: a president, a vice-president and secretary each for the ten judicial districts of the State, and a committee on the order of business. President George L. French, of New Hanover county, assumed the chair, and after thanking the convention for the honor, explained that owing to severe indisposition His Excellency Governor Scales was unable to be present in person, but that he had deputed Rev. Dr. Sanderland to represent him. Dr. Sanderland having been introduced, addressed the assembly. In behalf of the State and its chief executive he extended a cordial greeting to all present. In most complimentary terms he referred by name to men of Northern birth now citizens of every part of the State, who were by their thrift, industry and enterprise helping forward the development of the Commonwealth, and said what was true of those he had named would apply with equal force to the same class of citizens throughout the State. The next address was by Mayor Dodd, of Raleigh, who, in behalf of its citizens, made a proffer of hospitality and the freedom of the city to its welcome guests. Hon. Montford McGehee, commissioner of agriculture, extended a welcome to the convention as the official representative of all industrial interests. In glowing language he described in their order the many natural sources of the material wealth of the State, and invited all to come and join with its citizens in using them to the best advantage. The welcome of the North Carolina Press Association was extended by President McRee, editor of the News and Observer, in language equally warm and cordial. President French responded in behalf of the settlers, and Messrs. Dodge, of Boston, Mass., and Kenney, of Redding, Pa., in behalf of the Northern visitors and journalists, after which the convention adjourned to meet Wednesday morning at 9 o'clock.

The second session was opened with prayer by Rev. George Baker, of Elizabeth City. The recommendation of the business

committee was adopted, that the morning be devoted to the hearing of statements from all prepared to make them of the opportunities open in North Carolina to settlers, every speaker being allowed ten minutes. This business occupied the convention until the final session Thursday evening. Many addresses of this description were made. The speakers narrated their personal experiences in North Carolina. Every part of the State from the sea to the Tennessee border was described. The educational, religious and social advantages of all were portrayed. Farms, orchards and crops, soils, climate, mineral springs and health resorts were described. The various industries pursued and those that could be profitably introduced were depicted. The mineral and forest wealth, the fisheries and the opportunities for profitable investments were discussed. Information about railroad and water transportation was imparted. As a whole, these statements were frank, business-like, and entirely free from exaggeration. They were made by practical men talking to an audience of like character, and when edited and published they will furnish an almost perfect picture of the present condition of North Carolina in all lines of industry, and of the immense openings available for capital and enterprise.

It was evident to every observer that this was no ordinary assemblage. In the best sense of the word it was a thoroughly American audience. The president, Col. George L. French, during the war commanded a regiment of Maine volunteers. When peace was restored he resolved to make his home in North Carolina. In his address upon taking the chair he said that after looking the ground over with the greatest care he deliberately made his decision, because he believed that from thenceforward the flow of immigration of Northern people would be diverted from the West to the South. Circumstances had temporarily hindered this, but all that had heretofore obstructed the current was now swept out of the way, and after twenty-one years of waiting he had lived to see his expectations realized. He regarded this convention as the harbinger of the great prosperity coming to the South. In a humorous way he referred to his own physique (he is 6 feet 3 inches tall and of fine soldierly figure) as an illustration of the ill effects of an alleged malarial climate.

Another member of the convention, Col. Julian Allen, of Statesville, illustrated in his own history and achievements those American characteristics that made this a typical assembly. This gentleman was expatriated from his native land, Poland, while a youth in his teens, and found his way to the United States. Arriving here before he was eighteen, he immediately declared his intentions and later became a citizen. Engaging in mercantile pursuits, he accumulated a competency, and closing up his large affairs in New York, he bought a considerable tract of land in Iredell county in this State, where for thirteen years he has lived a jovial and prosperous farmer. This gentleman gave many useful hints to agriculturists coming from the North to follow the same vocation here, disguising the plain advice in the form of a very funny account of the disastrous results of his first farming operations.

Another man of mark among the delegates was Mr. S. T. Kelsey, who founded Highlands, a lovely town on the crest of the Blue Ridge, overlooking many square miles of South Carolina. Mr. Kelsey was born in New York State. When a young man he went to Illinois, where he lived until the rush to Kansas began. He sold out his home and was one of those pioneers who helped to lay the foundations of that grand young commonwealth. A dozen years ago he came South, impelled by the same belief that influenced Colonel French. Through his exertions a prosperous community is growing up around him in the midst of one of the most lovely localities of "the land of the sky." Space will not permit any mention of the many other men of mark in this con-

vention it would be a pleasure to describe.

The session Thursday night was a fitting conclusion of the convention's work. By invitation of the president, brief addresses were made by Professor C. D. Smith, whose reputation as a scientist and an enthusiastic prospector has extended far beyond the mountains he has been exploring for more than thirty years; by Capt. E. R. Stamps, of Raleigh, lawyer and banker, whose wise counsels as one of the penitentiary commissioners of this State have placed it in the front rank among the commonwealths for humane and judicious treatment of criminals; by Mr. Wm. S. Primrose, of Raleigh, one of the rising young business men of the South, who, for his efforts in behalf of all that will give prosperity to North Carolina, is highly esteemed throughout the State; by Col. J. L. Morehead, of Leaksville, a wealthy cotton manufacturer, a liberal citizen and an accomplished gentleman, and by Major Bingham, proprietor and principal of a military school at Mebanesville, whose influences upon the many young men under his instruction is employed to incite them to right thinking, earnest purposes and noble living. After these gentlemen had spoken, the committee on business reported a plan for a permanent organization of the Northern Settlers' Association. This was adopted and the officers appointed. Col. French was elected president of the association, and a general committee, consisting of one member from every judicial district, was appointed. The purpose of this association is to act in concert with the commissioner of immigration, to aid him in the settlement of new comers, and to furnish such information to his department as will be of service to inquirers about North Carolina. The committee met after the convention adjourned, and appointed an executive of five, of whom Wm. E. Ashley, Esq., of Raleigh, is chairman, with instructions to confer with Commissioner Patrick and to lay out a plan for useful work. A series of resolutions were unanimously adopted, in which the thanks of the convention were tendered to all who had assisted in the manifold work of preparation for the convention. Among the special kindnesses acknowledged were those of the officers of the Seaboard Air Line, who had made it possible to secure the large attendance of Northern editors and visitors, and who, by many other courtesies, had contributed materially to the pleasure and success of the convention. A declaration was also adopted summarizing the main facts respecting North Carolina brought out during the discussions. The convention then arose and united in singing the doxology in long metre, after which Chaplain Shively pronounced the benediction. Then President French, in brief but eloquent words, bade the members farewell and declared the convention adjourned.

There was one important incident of the proceedings on Thursday, the great day of the fair, that must be noted. At noon, when the large audience gathered at the grand stand to secure seats for the races later in the day, the members of the convention, of the State Agricultural Society, and of the Board of Agriculture occupying the central seats that had been reserved for them, Major W. M. Pegram, of the Baltimore MANUFACTURERS' RECORD, was introduced to the great audience, and delivered an address replete with information. As this masterly effort will appear in this issue of the MANUFACTURERS' RECORD, I shall make no other comment than to say that it was listened to with intense interest, that all its telling points were enthusiastically applauded, and that when the speaker concluded he was immediately surrounded by many prominent men who congratulated him most heartily.

The courtesies extended to the Northern settlers and their guests were all and more than the MANUFACTURERS' RECORD had predicted. The public institutions were thrown open for their examination, and at the asylum for the insane an elegant collation was served. At St. Mary's School and at the Peace Institute charming musical entertainments were given by the young lady pupils. At Shaw University the various departments were visited, and in the chapel the assembled students sang "Roll, Jordan, Roll" and other melodies in grand chorus. The citizens of Raleigh gave a superb banquet to their Northern visitors. Landlord Rainey, of the Varborough House, eclipsed all former efforts on this occasion. To-day the editors and visitors separated into two parties, one going to Henderson, the other to Durham, by invitation of the citizens of those thriving towns. To-night another party left for Charlotte, where they will receive a royal welcome from Mayor Johnson, the municipality and the citizens generally. Many of the visitors have gone to different parts of the State to see for themselves whether what they have heard is true. Take it all in all the convention was much more of a success than even its most hopeful friends expected. B. S. P.

[CONTINUED FROM PAGE 447.]

ber 31st, 1880, to be \$679,804,828, and on December 31st, 1885, \$1,283,536,565. Thus in five years the actual cost of Southern railroads and their equipments has increased in the enormous sum of \$604,000,000. While the larger part of this has gone into the construction of new roads, very many millions have been absorbed in the improvement of old roads, the substitution of steel for iron rails, better rolling stock, and other necessities of railroad business.

What is wanted to enhance the further advancement of the South in all her interests, industrial, agricultural and mineral, is immigration and capital. She wants men of character, intelligence, pluck and energy, who are not to be baffled by seeming difficulties, but with a force power of determination and will to carry them over all obstacles. She wants men of mind and muscle, whose aim will be not only their own prosperity, but that of the country of their adoption. She wants not the turbulent element which so infests the North and West, bringing with it from the old world its nihilistic and socialistic ideas, mistaking liberty, secured by law, for license, and by lawless acts producing a paralyzation of trade, a breaking down or closing up of industries, and general confusion throughout the business world. Such a class as this the South should use every endeavor, by stringent and well-executed laws and all the appliances of government, to keep away from her. Nor does she want drones, to live upon the thrift of other people, and take no part in the building up of the general welfare; but she does want, and will welcome with open hands and hearts, men of energy, perseverance and grit. She wants the tide of immigration from the agricultural districts of the North and West, which has already begun, to continue on to its full flood, even threatening overflow. She wants that these farmers teach those among whom they settle how to raise good crops, and make a good living on fifty acres of land; to teach them their systems of farming, and that frugality under which they have grown rich and prosperous, born of hardy toil and rigid self-dependence, until they, too, shall have become rich and prosperous also. She wants that her farmers be taught the intelligent mode of fertilizing their land by first having a chemical analysis of the same, thus learning its needs and supplying them, instead of ruining their broad acres by the injudicious and ignorant use of injurious so-called "helps to cultivation." And with all these, she wants capital. This is the great need that is felt throughout the Southern country.

There are now less banking facilities than existed before the war. She wants more money and cheaper money. She wants more banks and banking houses, through which her products may be satisfactorily handled. Accommodations are wanted in the way of discounts at less rates than from 12 to 18 per cent. per annum, as is demanded in many cases. Hundreds of thousands of dollars could readily be put out throughout the districts I have recently visited at paying rates and on first-class security; and here is an opportunity rarely offered to Northern capitalists for investing their money, which they should not be slow to avail themselves of.

The great vital question in the New South, and on which depends the maintenance of her industries of all kinds, is that of protection. It is absolutely suicidal to be resting quietly, apparently taking only a superficial view of the subject, while legislation is being attempted and energies bent to the sapping of the very foundations of the great industrial structures within her midst. It is very easily understood, if the report be true, that the sentiment of New England in favor of protection is not so strong as it was a few years ago. In earlier times she had nothing to fear from the South, which was her best customer, consuming, as she did, an immense portion of her manufactures. She was very quick to demand protection against foreign encroachments upon her preserves. Now, however, since those said preserves have become a large manufacturing competitor, with facilities every day increasing, finding markets in the very teeth of her former creditor, supplying equally as good wares as those formerly received from her, and at less cost, New England is beginning to descant upon the blessings of free trade which, in her days of struggle for prosperity, would have been denounced as the greatest of heresies, little mindful of the fact that such an injurious blow as that aimed at the South, if effective, would recoil and seriously

cripple the long-established industries of her own section not only, but those of the North and West. Strange to say, there are men to be found in the South who are advocates of this heresy. They are, so to speak, "the foes of her own household;" men who would see her great strides towards the goal of prosperity impeded, and her resources fail of their utility by a competition with the convict labor of the old world, and the results of a system of white slavery far more obnoxious, exacting and pernicious than that which existed in the Southern States prior to the war. But such men have very little weight. Speaking in this connection, the before-quoted MANUFACTURERS' RECORD, in an able article published not long since, thus gives it to certain Southern journals who are bolstering up free trade.

"New England has grown wealthy and powerful under a protective tariff, and under the same influence the South is beginning to develop her resources, to open up the way to prosperity and wealth, and yet there are Southern journals that seem to be unwilling to see this consummation, if it is to be brought about by means of protection. Such an end would upset their theories and doctrines, and these are of more consequence than the welfare of the South. Rather than surrender their cherished free-trade dogmas, they prefer that the South should continue as in the past—dependent upon others for manufactured goods; that the vast resources of mineral and timber should remain undeveloped; that the steadily increasing demand for labor should cease; that the growth of a home market for the diversified products of the farm should no longer offer to thousands a release from the all-cotton curse. They see great mining and manufacturing enterprises established under protection, and more important ones coming into existence, and yet they are persistently advocating a course that, if adopted, must inevitably put a stop to it all."

There is no getting rid of the fact that the South must have a tariff protection in order to exist as a manufacturing and mining territory, or else she must again become an agricultural country alone. To avoid the latter as an impossibility, and to secure the former as a certainty, let a convention be called, composed of delegates from all parts of the South, from the agricultural as well as the industrial districts, to fully discuss the question in all its bearings, speaking trumpet-tongued that no uncertain sound may be made. Let her representatives in Congress be made to understand that it is of more importance to Southern interests than all other questions which may arise for their deliberation, and that they look to and guard well this great bulwark of Southern progress. Let it be known that the motto of the South is Forward, and not Backward; that she will always make strong opposition to any and all attempts to fetter her limbs with chains forged in the fires of insatiate envy or unwilling competition; that she will repel with vigor all blows aimed at her industries, and that, under the blessing of a benign Providence, she will still pursue her manifest destiny, and stride forward toward the goal of great and enduring prosperity.

MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

NORTH CAROLINA PHOSPHATES.

It is hardly expected that the writer can cover the whole field of mining operations in North Carolina, but it is his intention, from time to time, to diverge from themes treating only of mining for precious metals, and to present, as briefly as possible, notes on other industries in which the people may have more or less interest. In this paper the mining and manipulation of phosphates is presented, and for several reasons: It is a growing industry, and demands attention for that reason; and, again, the people should be advised as to the value of the products, in order that they may decide intelligently what is best for their special demands.

THE NORTH CAROLINA PHOSPHATE COMPANY is composed of natives of the "Old North State." They mine the crude material at "Castle Haynes," near Wilmington, and grind it at Raleigh; the product is called "lime phosphates." The material is reduced in Frisby Loucap mills, and the mechanical condition is excellent. The mill will grind 25 tons per day. A railroad runs through the mills, which expedites the handling of the material. The company have large

orders ahead, and they are being continually added to, so that the capacity of the mills has been kept on a strain to supply this valuable product, which, in many cases, is delivered direct to the farmer, saving the commissions of middlemen. To give some idea of the proportions of the business, it may be remarked that the company has declined a cash offer of \$30,000 for one of their phosphate beds. It is one of the greatest coming enterprises in the State.

W. G. Lewis, engineer of the Board of Agriculture, in reporting on the phosphate bed at "Castle Haynes," says: "There is a stratum of seven inches of lime rock near the surface, and the conglomerate of phosphatic nodules averages a depth of four and one-half feet below the surface. The stratum of conglomerate averages about two and one-half feet thick, and yields about 10,000 tons to the acre. Dr. Hogg thinks it underlies a large part of that section, making off from Castle Haynes in a northeasterly and a southwesterly direction.

The use of the fertilizer, which he made without acid or skilled labor, shows about 300 per cent. increase in corn and a greater increase in oats over the land without the phosphate. The increase in yield of oats was so great that it could not easily be estimated. It was used on poor sandy land."

There are large deposits of phosphatic nodules in carbonate of lime in Eastern Carolina. The beds are exposed where creeks have cut through the surface sand or where ditches have been dug. The territory is large, but need have no particular outlining here. The point to get at is the value of the material, as there is no room to doubt its abundance. "The nodules," says Engineer Lewis, "of this conglomerate bed are of all sizes, from a pumpkin to bean. They are smaller about Wilmington and Castle Haynes and larger at French's. They are of all shapes, but for the most part kidney and egg-shaped. Some are perforated, though much less so than South Carolina rock. Color, light grey to greenish black. Freshly broken or rubbed together they give the odor of burnt powder, characteristic of such phosphates. Their specific gravity is 2.6 to 2.7"

ANALYSES OF NODULES.

The first two are analyses of single nodules taken from the conglomerate at Castle Haynes, while the third is from the analysis of a collection of such nodules ground up together:

Sand and Insoluble Matter.	Carbonate of Lime.	Phosphate of Lime.	Equivalent of Phosphate of Lime.
Sta'n No. Per cent.	Per cent.	Per cent.	Per cent.
1,981 22.07	42.12	20.50	9.37
1,982 33.52	20.45	33.97	15.57
2,132	30.90	14.16

"The cement between the nodules is composed of comminuted shells, with sand at some localities." This cement, taken from Castle Haynes, contains:

Sand and insoluble matter	3.04 per cent.
Carbonate of lime	90.80 "
*Phosphate of lime	1.46 "
*Equivalent to phosphoric acid	0.67 "
Potash varies from 0.4 to 1.5 per cent.	

The composition and value of conglomerate, taken as a whole, may be illustrated by giving analysis No. 2,333: "The specimen, fresh from the mill, contained moisture, 1.39 per cent.; calculated on the sample dried at 212° F."

Carbonate of lime	64.26 per cent.
*Phosphate of lime	11.16 "
Magnesia	0.81 "
Potash	0.40 "
Sulphates and chlorides	trace.
Sand, soluble silica, oxide of iron, alumina, &c., undetermined	23.37 "
*Equivalent to phosphoric acid	5.11

"The economic relations and agricultural value" of these phosphates were tested in 1884, and it was from the exceptional results then obtained that the North Carolina Phosphate Co. was organized. Since organization they have done a prosperous business, and, as before remarked, it is destined to reach gigantic proportions as an industry in this State in the near future. For specific information in regard to the business, address Mr. P. M. Wilson, Raleigh, N. C., and for general information as to extent of formations and values, as determined by analyses, address Dr. C. W. Dabney, Jr., State Chemist, Raleigh.

Business Chances.

For the purpose of making the MANUFACTURERS' RECORD a still more valuable medium of communication between its readers North and South, we will publish, FREE OF CHARGE, short advertisements, not exceeding 40 words, from those in the South who have good business openings that they wish to bring to public notice, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the Baltimore Manufacturers' Record. Parties advertising in this column must have replies sent to their own address, and not to care of Manufacturers' Record, unless stamps are sent for forwarding replies. Advertisements sent not in accordance with this requirement will not be inserted.

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2,800 ACRES of iron lands, fully developed, conveniently located, fine furnace location, on N. & W. R. R., Va., will be sold very cheap. For price, analysis, map, &c., &c., address, L. C. Hansbrough, Salem, Va.

9,000 ACRES of timber land, 13 miles long, title perfect, price \$1 per acre. For particulars address, F. J. Chapman, Salem, Va.

PARTNER WANTED in hardwood business in the South. Owner has fine retail trade in lumber, stair work, mouldings, &c., but wishing to be relieved of care, would sell one-half interest to good party, who must be fully competent to estimate on all kinds of interior finish and able to manage 25 to 30 hands. Five to six thousand dollars and best of reference required. Stock first-class and machinery all new. Good local demand for all the work. No bonus required. For further particulars address "Hardwood," care of MANUFACTURERS' RECORD.

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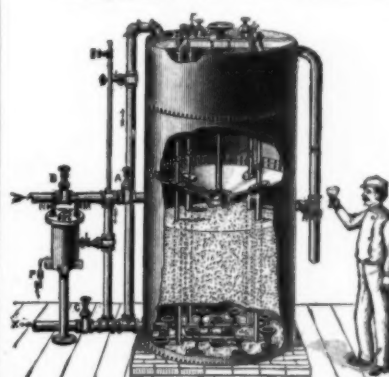
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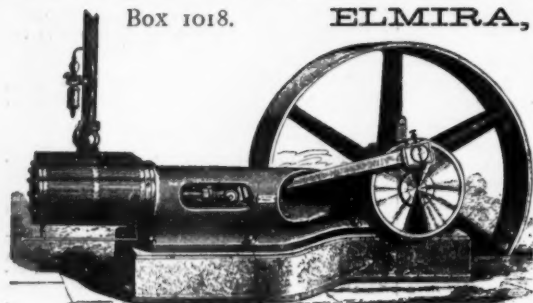
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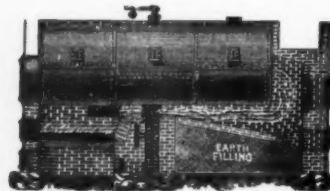
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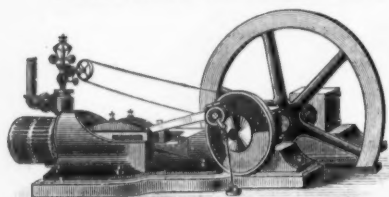
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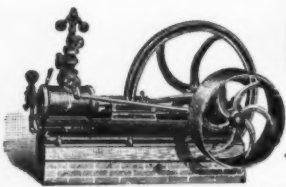
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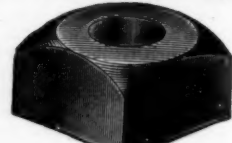
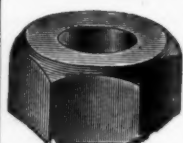
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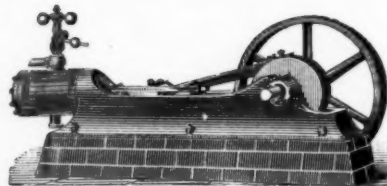
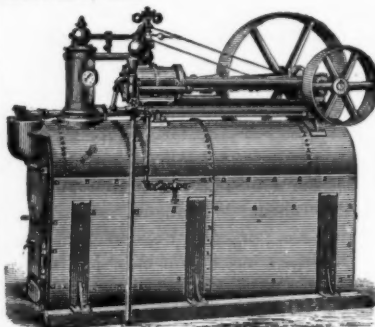
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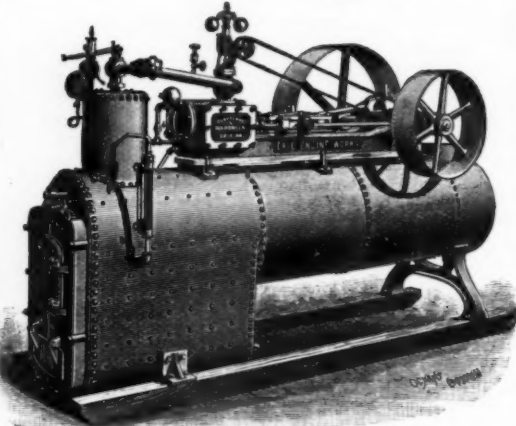
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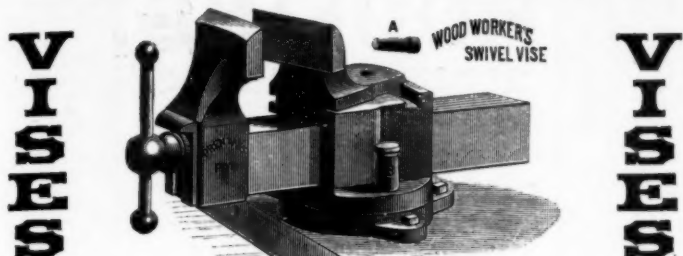
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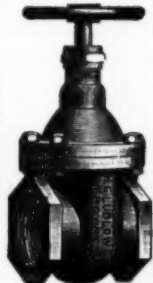
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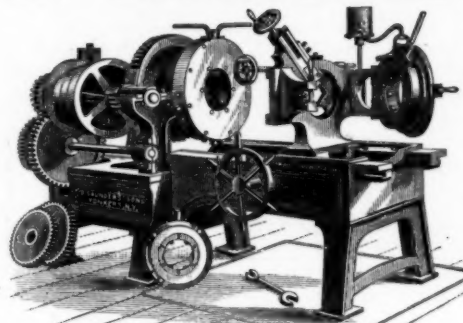
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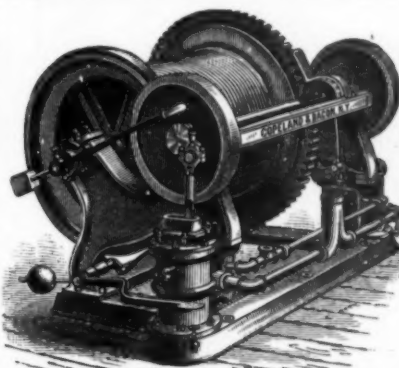
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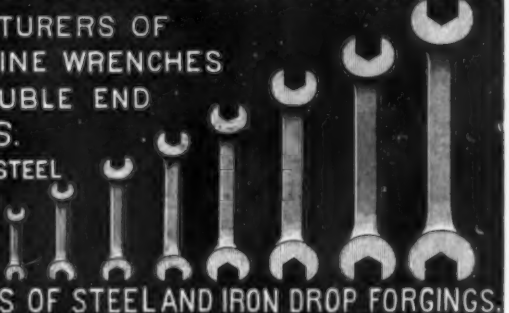
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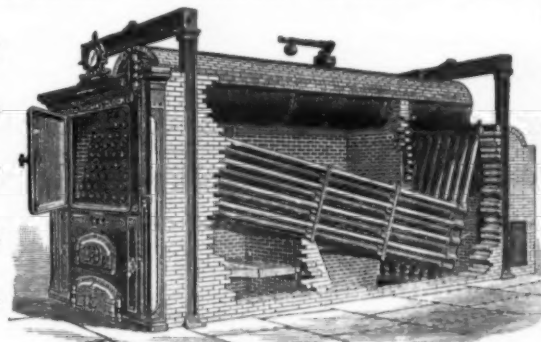
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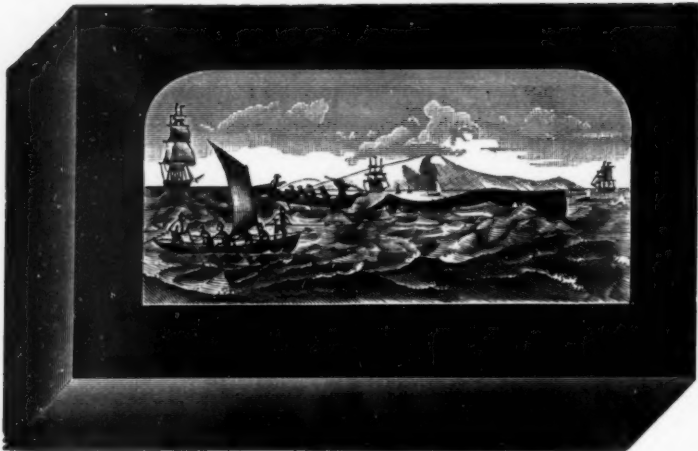
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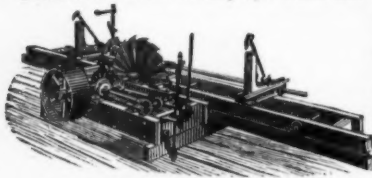
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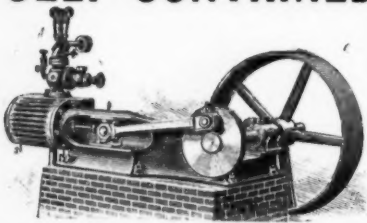
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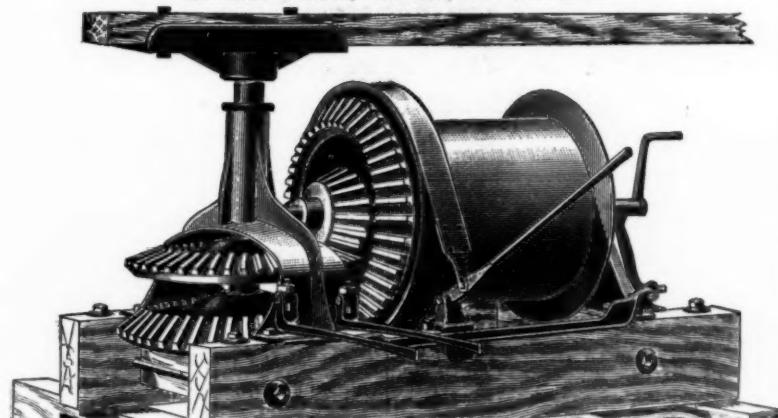
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In this combination of gears the user has the advantage of two machines embraced in one, with a saving of 25 per cent. in cost and 60 per cent. in weight.

The machine is so simple in its construction that it can be easily understood without explanation. The changing of the speed is done in an instant by simply raising or lowering a lever to the left of the machine without being obliged to stop the horse. With the powerful brake and automatic safety attachment, and with the strength and durability, together with the lightness of this machine, we think we have accomplished a purpose which will be appreciated by our customers, and give us a ready sale of this machine. Price \$150 net.

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THE CENTURY is an illustrated monthly magazine, hav-
ing a regular circulation of about two hundred thousand copies,
often reaching and sometimes exceeding two hundred and twenty-
five thousand. Chief among its many attractions for the coming
year is a serial which has been in active preparation for sixteen
years. It is a history of our own country in its most critical time, as
set forth in

THE LIFE OF LINCOLN.

By His Confidential Secretaries, JOHN G. NICOLAY,
and COL. JOHN HAY.

This great work, begun with the sanction of President Lincoln,
and continued under the authority of his son, the Hon. Robert T.
Lincoln, is the only full and authoritative record of the life of Abraham Lincoln. Its
authors were friends of Lincoln before his presidency; they were most intimately asso-
ciated with him as private secretaries throughout his term of office, and to them were
transferred upon Lincoln's death all his private papers. Here will be told the inside history
of the civil war and of President Lincoln's administration,—important details of
which have hitherto remained unrevealed, that they might first appear in this authentic
history. By reason of the publication of this work,

THE WAR SERIES.

which has been followed with unflagging interest by a great audience, will occupy less
space during the coming year. Gettysburg will be described by Gen. Hunt, (Chief of the
Union Artillery,) Gen. Longstreet, Gen. E. M. Law, and others; Chickamauga, by Gen.
D. H. Hill; Sherman's March to the Sea, by Generals Howard and Slocum. Generals Q.
A. Gillmore, Wm. F. Smith, John Gibbon, Horace Porter and John S. Mosby will
describe special battles and incidents. Stories of naval engagements, prison life, etc.,
etc., will appear.

NOVELS AND STORIES.

"The Hundredth Man," a novel by Frank R. Stockton, author of "The Lady, or the
Tiger?" etc., begins in November. Two novelettes by George W. Cable, stories by Mary
Hallowell Foote, "Uncle Remus," Julian Hawthorne, Edward Eggleston, and other promi-
nent American authors will be printed during the year.

SPECIAL FEATURES.

(with illustrations) include a series of articles on affairs in Russia and Siberia, by George
Kennan, author of "Tent Life in Siberia," who has just returned from a most eventful
visit to Siberian prisons; papers on the Food Question, with reference to its bearing on
the Labor Problem; English Cathedrals; Dr. Eggleston's Religious Life in the American
Colonies; Men and Women of Queen Anne's Reign, by Mrs. Oliphant; Clairvoyance,
Spiritualism, Astrology, etc., by the Rev. J. M. Buckley, D. D., editor of the *Christian
Advocate*; astronomical papers; articles throwing light on Bible history, etc.

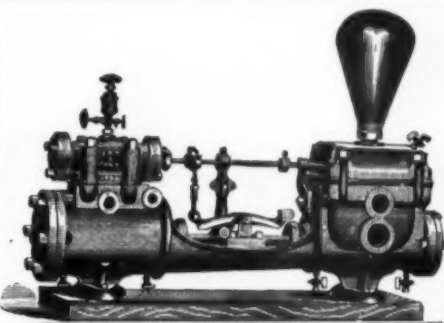
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the STRONGEST and MOST DURA-
BLE Pump for every duty. MINERS,
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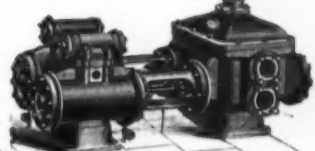
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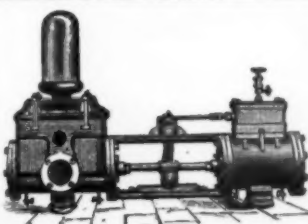
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Literary Notes.

"A BANKER OF BANKERSVILLE" is the title of a novel by Maurice Thompson, which Messrs. Cassel & Co. announce for early publication. The story touches a question which will attract the attention of our next Congress, the question of a treaty (upon extradition) with Canada. It is written in a new vein for Mr. Thompson, and has more dash than poetry in its composition.

THE November Wide Awake, which closes the twenty-third volume, is notable for its fine historical article, "The Story of Two Names." It relates to Pocahontas and the Rolfses. It was written by an old friend of the Rolfses, of Heacham Hall, the undoubted birthplace of the husband of Pocahontas. The author is Mrs. Raymond Blathwayt, of Heacham, England, and she has had the collaboration of Dr. Ingleby—the well-known English antiquarian. In this number the serials, "The Crew of the Casabianca," "Pamela's Fortune" and "Peggy and Her Family," come to an end. There are some delightful short stories in the number: "A Child of the Sea Folk," an historical mermaid story by Susan Coolidge; "Joel Jackson's Smack," a story of the blockade of 1813, by Mrs. Mary Bolles Branch; "The Christmas Ball at Eliotdale," an ante-bellum Kentucky story by Sally L. Young. Mrs. Alfred Macy, in her Nantucket paper, describes the wax "Dauphin" brought over to the Island from France, and Mrs. Sherwood concludes her "Royal Girls and Royal Courts" with a delightful paper, "Two Royal Widows," relating to Eugenie, of France, and Christina, of Spain. There are many fine illustrated poems: "That Things are no Worse, Sir," one of the last poems written by Helen Hunt Jackson; "Muriel's Thanksgiving," by Mary E. Brady; "Olaf, the Sea King," by Kate Putnam Osgood, and many others. A new volume begins with the December issue, for which remarkable attractions have been secured. D. Lothrop & Co., publishers, Boston.

A POPULAR treatise on the application of electricity is just published by Messrs. Cassel & Co., under the title of "Electricity in the Service of Man." The work is translated, with copious additions, from the German of Dr. Alfred Ritter, von Urbanitzky, by Dr. R. Wormell, with an introduction by Prof. John Perry, and contains upwards of 850 illustrations.

THE bound volume of the Magazine of Art for 1886 makes as handsome a holiday book as one would wish to have. It is filled with illustrations in the various styles of the reproducing arts, and is an art gallery which one may visit every day with profit and for which privilege he pays but one admission fee.

TRADE NOTES.

WESTINGHOUSE, CHURCH, KERR & Co. are now fairly established in their enlarged quarters at 17 Cortlandt street, New York. The origin of their present business was a local agency for the Westinghouse engine, in 1882 in the hands of Mr. Church, of the present firm, occupying desk room only in the offices of another concern. From this small beginning the business has steadily increased until the present offices monopolize the entire ground floor of No. 17, with dynamo and testing room in the basement, and a private draughting room on the second floor. The concern gives employment to about forty engineers, salesmen, outside superintendents and office employees, and through its sub-contractors to a total of more than 100 men.

WE call attention to the advertisement of the Western Forge & Tool Co., who manufacture a fine grade of the best crucible steel railroad track, blacksmiths, stone-mason, quarrying and miners' tools, hammers, sledges, mauls, etc. This old and well-known house has earned a wide reputation for the excellence of their goods and low prices, and we commend them to the readers of the MANUFACTURERS' RECORD. Their handsome catalogue, fully illustrated, show-

ing their complete line of goods, should be in the hands of every hardware dealer in the South; and correspondence is solicited with railroad and mining companies and quarrymen who purchase direct from the manufacturer. The address of the Western Forge & Tool Co., is 1220 and 1222 Collins street, St. Louis, Mo.

JOHN MITCHELL, Louisville, Ky., patentee and manufacturer of an improved combustion chamber boiler, with feed water heater and boiler-cleaning attachments combined, reports the sale of his boiler and attachments steadily increasing. This is an invention that finds favor wherever used.

MR. FRANK W. SWETT, Chicago, states that business with him is very fair. He is manufacturing a full line of band saws, from $\frac{1}{8}$ inch to 10 inches width, and is having a large sale, his trade extending to all parts of the United States and Canada. Has just shipped a large number of 8-inch band saws for cutting logs. In the manufacture of his saws he uses nothing but the best material, made specially for him, and he warrants every saw sent out. He also makes a complete line of band-saw tools, such as clamps, vises, tongs, &c. His goods are sold by all leading dealers in machinery and mill supplies. Write to him for catalogue.

THE Utter Manufacturing Co., Rockford, Ill., have issued an illustrated price-list of their well-digging machinery. The machinery of this firm has a high reputation for efficiency, rapidity and thoroughness of work, durability, &c. The price-list contains a large number of letters from parties using their machinery, giving the results of their experience with it.

List of Patents.

The following Patents were granted to citizens of the Southern States, bearing date Oct. 26, 1886. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Allen, R. T. P., Farmdale, Ky. Car-starter.....	351,559
Benson, P. P., Little Rock, Ark. Plow.....	351,420
Biggs, J. M., Louisville, Ky. Telegraph-key.....	351,485
Bushman, V. H., Baltimore, Md. Hose-reel.....	351,688
Cannon, R. E., Nicholasville, Ky. Rubber shoe.....	351,572
Coleman, John, Lynchburg, Va. Vehicle-axle.....	351,425
Cook, Frederic, New Orleans, La. Cuff-button.....	351,579
Drummond, E. B., and J. T., Massie's Mills, Va. Sole and heel shaving implement.....	351,429
Drummond, E. B., Massie's Mills, Va. Convertible heel and sole shave.....	351,428
Filson, H. G., New Cumberland, W. Va. Flour chest and sifter.....	351,504
Holland, C. A., Shoe Heel, N. C. Animal-trap.....	351,510
Jester, A. E., Jester, Tenn. Gate-hinge.....	351,513
Ketteringham, J. P., Natchez, Miss. Car-coupling.....	351,516
Le Grande, W. W., Louisville, Ky. Electro-mechanical signal apparatus.....	351,384
Littlejohn, C. M., Pacolet, S. C. Invalid-bedstead.....	351,641
Lupton, T. M., Winchester, Va. Shutter-worker.....	351,705
Madden, J. L., Lewisport, Ky. Hay or cotton press.....	351,610
Mitchell, C. L., Covington, Ky. Device for the consumption of liquid fuel.....	351,390
Newby, A. S., Nashville, Tenn. Stove.....	351,648
Newman, O. M., Milton, Fla. Showstand or rack.....	351,649
Park, H. S., Henderson, Ky. Electro-magnetic car-brake.....	351,650
Ralston, Joseph, Brenham, Tex. Cotton-gin.....	351,401
Rector, J. R., Salado, Tex. Cotton-chipper.....	351,526
Robson, C. J., Evergreen, Ala. Cultivator.....	351,716
Shaw, J. W., Baltimore, Md. Skylight-cover.....	351,533
Simmons, C. H., Munford, Ala. House clamp and anchor.....	351,407
Suter, J. R., Conway, Ark. Cultivator.....	351,720
Tasso, Hippolyte, New Orleans, La. Umbrella-support.....	351,669
Weller, M. S., Charlestown, W. Va. Ice-creeper.....	351,415

PATENTS FOR INVENTIONS

(American and Foreign.) Trade Marks, etc., procured through the agency of

Arthur C. Fraser & Co.

TEMPLE COURT, NEW YORK CITY.

(Entrance 5-7 Beekman St.) Hand-book of information sent free to any address.

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Banking Facilities

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The coal is of excellent quality, and in good workable seams.

The lands are well timbered with yellow pine, oak, hickory, &c.

These lands are conceded to be among the best in the State, and are offered at a price that makes them very desirable, either for development or investment. The owners will sell a controlling interest, but wish to retain at least a fourth interest.

For further information, maps, &c., call on or address

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Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address H. McSHANE & CO. Baltimore, Md.

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Only 3 cts. per lb. The cheapest and most economical Heater in the market. The AURORA HEATERS are now in use by all manufacturers and railroad companies, and are known through the country to be the cheapest, best and most economical Heater in the United States.

Catalogue sent free to any address.

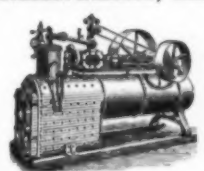
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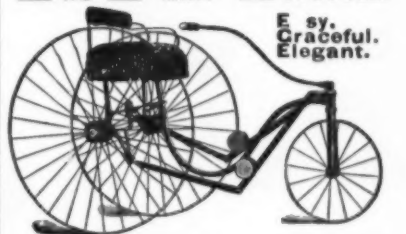
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COMPLETE GIN AND MILL OUTFITS

—A SPECIALTY.—

Lubricating Oils, Mill and Engineers' Supplies. Cotton, Grain, Saw-Mill, and Labor-Saving Machinery. Shafting, Pulleys, Belting, Saws, Emery-Wheels, Governors, Pumps, Inspirators, &c. Large stock to select from. Prices low, goods guaranteed. Write for circulars.

THE FAIRY TRICYCLE.



Has no equal for health of motion or ladies' use. Durable and cheap; runs the easiest; no chains or gear nor to catch or tear clothing. A good hill climber. For adults, invalids and children. Agents wanted.

THE FAY MFG. CO., Elyria, O.

Machinery and Engines,

Second-Hand and New.

Engine Lathes.	
30-inch Swing x 22 ft Bed, New Haven.	
30-inch " x 15 ft " " " "	
18-inch " x 17 ft " " " "	
26-inch " x 22 ft " " " "	
26-inch " x 12 ft " " " "	
17-inch " x 8 ft " " " "	
16-inch " x 8 ft " " " "	
15-inch " x 6 ft " " " "	
Planers.	
24-inch x 24-inch x 9 ft Bed, Fitchburg.	
35-inch x 27-inch x 16 1/2 ft " Cove Mfr. Co.	
30-inch x 26-inch x 5 1/2 ft " Steel & Bunidge	
24-inch x 22-inch x 5 ft " Chamberlain.	
22-inch x 22-inch x 5 ft " New Haven.	
30-inch x 30-inch x 5 ft " Hendey.	

One 26-in. Swing, Back Geared and Power Feed, Fitchburg.

One 24-in. Swing, slow feed and hand, N. Haven.

One 25-in. Swing, Barnes.

One 30-in. Swing, Barnes.

Hot-rolling Engines and Boilers.

One Mundy, 10-Horse Power.

One Mundy, 8-Horse Power.

One Lidgerwood, 12-Horse Power.

Engines.

100 Horse-Power, 16x32 inch., Automatic Cut off, Lambertville make, (good as new.)

One 25-Horse Power, Horizontal.

One 12 " " Vertical.

One each 5, 6, 10-Horse, Vertical.

One 6-Horse Power, Baxter, (Colt's make.)

One Bradley Hammer, 80-pound.

Two Dead Stroke Hammers.

Shafting, Hangers, Pulleys and Belting.

Machinery, Tools and Supplies.

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THE MARKETS.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, NOV. 3, 1886.

Business moves along in pretty much the same way as for some weeks past, the aggregate volume being large. In manufactures generally there is a fair degree of activity, with considerable briskness in some, especially in all branches of the iron trade. While the production of pig iron this year will probably be much greater than in any preceding year, there is little or no increase in stocks, so enormous is the consumption. In the building of new furnaces there is much activity in the South, and, within a year or two, the iron-producing capacity of that section will be so large as to make Southern iron even a more important factor in the iron markets of the country than at present. The positive statement of the New York Engineering & Mining Journal that pig iron can be made in Alabama for less than \$8 a ton, will be a revelation to many Northern iron men, and will, no doubt, cause many of them to investigate the opportunities for investing in iron making there before the ground is fully occupied.

In manufactured iron the market continues very firm, with prices tending upwards and trade active. We repeat quotations, viz:

Ref. Bar Iron, 1 to 6 1/2 to 1 1/2	1.90@2.10
" " 1 to 4 1/2 to 1 1/2	1.90@2.10
" " 3/4 to 2, round and	1.90@2.10
square	1.90@2.10
Hoop Iron, 1 1/2 wide and upward	2.40@2.50
Band Iron, from 1 1/2 to 6 in. wide	2.35@2.50
Horseshoe Iron	2.50@3.00
Norway Nail Rods	4 1/2@5 1/2
Black Diamond Cast Steel	3 1/2@4.00
Machinery Steel	3 1/2@4.00
Spring Steel	3 1/2@4.00
Common Horse Nails	3 1/2@4.00
Railroad Spikes, 5/8x16	2 1/2@3.00
Steel Boiler Plate	3 1/2@4.00
Iron Boiler Plate	2 1/2@3.00
Boiler Tubes	4 1/2@5.00

There is no change in the pig iron market, the volume of trade being large, with prices as before. Old rails continue in good demand. We quote:

Baltimore Charcoal Wheel Iron (all Baltimore ore)	25 00@26 00
Virginia C. B. Charcoal Wheel Iron	25 00@26 00
Anthracite, No. 1	18 00@19 00
" " 2	16 00@17 00
" " 3	15 00@16 00
" " Mottled and White	13 00@14 00
Old Rails	20 00@21 00
Old Steel Rails	19 00@20 00
No. 1 Wrought Scrap	19 00@20 00
Old Car Wheels	15 00@16 00

HARDWARE.

Trade is rather quiet, with only a limited volume of business doing. Prices show no material change in general hardware.

Nails are, as usual at this season, dull, with prices \$1.90 to \$2.00, according to quantity.

The Western Forge & Tool Works, of St. Louis, Mo., have issued the following price-list, from which there is a discount of 35 per cent.:

No.	Cts. per lb.
1 Track chisel	25
2 Double face striking sledge	14 1/2
3 Spike maul	16 1/2
4 Track wrench	18
5 Rail tongs	25
6 Rail fork	20
7 Claw bar	12
8 Lining bar (diamond point)	7 1/2
9 Lining bar (flat point)	7 1/2
10 Tamping bar	12
11 Crow bar	7 1/2
Nos. 8, 9 and 11 Bessemer	6
12 Napping hammer, 4 lbs. and over	16
13 Napping hammer, 4 lbs. and over	16
14 Double face striking hammer, 4 lbs. and over	15
15 Double face striking hammer, under 4 lbs.	17
16 Hand hammers	25
17 Smith's cold cutting chisel	25
18 Smith's hot cutting chisel	25
19 Round punch	25
20 Square punch	25
21 Smith's sledge, cross pean	14 1/2
22 Coal wedge	12
23 Coal maul	17
24 Wood chopper's maul	16
25 Wood chopper's wedge (Truckee pattern)	10
26 Wood chopper's wedge (common pattern)	8
27 Shipbuilder's or top maul	25
28 Mason hammer (single face), 5 lbs. and over	30
29 Mason hammer (single face), under 5 lbs.	30
30 Mason hammer (double face), 5 lbs. and over	30
31 Mason hammer (double face), under 5 lbs.	30
32 Mason stone axe	30
33 Mason stone pick	18
34 Mason stone wedge	10
35 Mason hammer, hand, 4 lbs. and over	25
36 Mason hammer, hand, under 4 lbs.	30
37 Mason quarry sledge	14 1/2
38 Mason stone sledge	14 1/2
39 Horseshoe's turning sledge	22
40 Stone cracker or Macadam breaker (flat pattern), per doz.	85 00
41 Stone cracker or Macadam breaker (oval pattern), per doz.	85 00

Philadelphia Iron Market.

PHILADELPHIA, November 2, 1886.

The heavy transactions during the past week were in Bessemer pig and old rails, 22,000 to 25,000 tons of the former, and, as nearly as can be added up, 4,000 tons of the latter, a part of this for future delivery. Prices for Bessemer range from \$19.75 to \$20.50, and for old rails from \$21.50 to \$22.25. There are to-day a good many inquiries for delivery, but the trouble is over prices. For foundry and forge irons the demand keeps up with production, and consequently there is an upward tendency in prices, especially for the better grades. Still there is not that rush for forge and foundry iron now that there was a short time ago, consumers having pretty liberally supplied themselves, and are therefore inclined to hold back a little and see how things go. Foundries are \$19 to \$20 for No. 1 and \$16.50 to \$17.50 for No. 2. Forge irons are \$15.50 to \$16.50. Southern irons are still heard of. Much bars are all sold up and prices are high. They are hard to get at \$31 at mill. Merchant iron is not to be had for early delivery. The stores manage to keep a good deal in stock, and are handling it to better advantage to themselves than for years. Price 1.90@2c. for refined. Nails are fairly active at \$2.10; some steel nails are coming this way. Sheet iron is selling at full card rates. The tank and plate mills have advanced prices and are selling at quoted rates for early delivery. All the bridge iron makers have large contracts in hand at 2.20@2.30 for angles and 3 cents for beams and channels. The wrought iron pipe demand is active, and tubing orders are crowding in. Merchant steel mills are busy. Steel rail orders for the past week in New York and Philadelphia markets will exceed 50,000 tons. The iron trade outlook is good from all points, and the consumptive demand is increasing. The increase in railroad requirements is the most encouraging feature in the entire situation.

Cincinnati Iron Market Report

Specially reported by ROGERS, BROWN & Co., Pig Iron Commission.

CINCINNATI, November 1, 1886.

The pig iron business of the week has been large at all Western centers, and the tone of the market has continued strong. Most of the selling has been for forward deliveries, and sales are reported running to January, 1888. Some of the largest buyers in the West have been in the market during the past week, and contracts of considerable magnitude have been placed. Among the important sales may be mentioned one of 2,000 tons Southern coke No. 1 mill iron at the equal of \$16.50 cash Cincinnati, next year's deliveries; 1,200 tons No. 2 Hanging Rock coke iron at the equal of \$17.50 cash Cincinnati, deliveries through 5 months; 1,000 tons Lake Superior charcoal at the equal of \$21.4 months, Chicago. Some car-load orders have been entered at figures below these, there being a disposition on the part of sellers to supply the smaller buyers rather than encourage business in large blocks with the large consumers. At the close of the week, however, Southern iron was firm all along the line at \$18 cash at Cincinnati for No. 2 foundry and \$16.50 to \$17.00 for No. 1 mill. The market indications all continued stronger at Western points than in the district east of here, the requirement for actual consumption coming very largely from the West. There are evidences, however, of considerable improvement in the Pittsburgh, Cleveland and Columbus markets. The almost complete absence of any speculative inquiry is still noticed, and receives some comment in view of the rather sensitive condition of the market. Several more large car contracts are in sight in the West, which will considerably increase requirements for iron in that

direction. We quote for cash f. o. b. cars Cincinnati:

HOT-BLAST FOUNDRY.	
Ohio and Southern Strong Coke No. 1	18 50@19 50
" " " " " " " "	17 50@18 50
" " " " " " " "	17 00@17 50
Ohio Soft Stonecoal, No. 1	18 50@19 00
Ohio Soft Stonecoal, No. 2	17 50@18 00
Mahoning and Shenango Valley Coke, No. 1	20 50@21 00
CHARCOAL IRON.	
Hanging Rock, No. 1	21 00@23 00
" " " " " " " "	20 00@21 00
Tennessee and Alabama, No. 1	20 00@21 00
" " " " " " " "	18 50@19 50
FORGE.	
Strong Neutral Coke	16 00@16 50
Mottled " "	14 50@15 50
Cold Short " "	16 00@16 50
CAR WHEEL AND MALLEABLE.	
Southern Car-Wheel Iron	24 00@25 00
Hanging Rock C. B.	26 00@27 00
" " " " " " " "	22 00@23 00
Lake Superior Malleable	22 00@23 00

Specially reported by E. L. HARPER & Co.

CINCINNATI, November 1, 1886.

The market is still firm and active. We quote for cash on cars or wharf here:

FOUNDRY.	
Hanging Rock Charcoal, No. 1	21 00@21 50
" " " " " " " "	20 00@20 50
Southern Charcoal " " "	20 00@20 50
" " " " " " " "	21 00@21 50
Strong Neutral Coke, " "	18 00@18 50
" " " " " " " "	17 00@17 50
American Scotch, " "	18 00@18 50
GREY FORGE.	
Neutral Coke	16 50@17 50
Cold Short " "	15 50@16 00
CAR WHEEL AND MALLEABLE.	
Hanging Rock, strictly cold blast	26 00@27 00
Hanging Rock, strictly warm blast	21 50@22 00
" " " " " " " "	24 00@25 00
Amherst and Virginia Warm Blast	22 00@23 00
Lake Superior Charcoal, all grades	24 00@25 00

Louisville Iron Market.

Specially reported by GEO. H. HULL & Co., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., November 1, 1886.

The pig iron market has been very active in the last week, and a further advance of 50 cents per ton has been established. Some furnaces have withdrawn from the market entirely for the present; others have advanced their asking prices \$1, but still offer a limited amount for next year's delivery at these figures. If the last-named figures are realized, it will be an advance of 50 cents per ton over our outside quotations. The advance has checked sales to some extent, but the market is very firm. We quote for cash in round lots as below:

PIG IRON.	
Southern Coke, No. 1 Foundry	18 00@18 50
" " " " " " " "	17 00@17 50
" " " " " " " "	16 50@17 00
Hanging Rock Coke, No. 1 Foundry	18 00@18 50
" " " " " " " "	20 00@21 00
Southern Charcoal, No. 1 Foundry	18 50@19 50
Silver Gray, different grades	16 50@17 00
Southern Coke, No. 1 Mill, Neutral	16 00@16 50
" " " " " " " "	15 00@15 50
" " " " " " " "	15 00@15 50
Southern Charcoal, No. 1 Mill	15 00@15 50
White and Mottled, different grades	13 50@14 50
Southern Car Wheel standard brands	24 00@25 00
" " " " " " " "	21 00@22 00
Hanging Rock Cold Blast	24 00@26 00
" " " " " " " "	20 00@22 00

Specially reported by W. B. BELKNAP & Co., Nails Wire, Iron, Hardware, Carriage and Wagon Goods.

LOUISVILLE, KY., November 1, 1886.

The market on iron and hardware is active throughout the list. Manufacturers seem more crowded with work than for several years, and prices are firm and in many cases advanced.

Bar iron.—Is in strong demand. The heavier sizes especially seem scarce, and are bringing an advance price without any trouble. Guide mill sizes are more easily obtained, but there is no longer that propensity to cut the card as freely as was done a short time since.

Hoop and band iron.—The mills which make these specialties report better business than for some years. There is a fair demand for both kinds and by degrees firmer prices seem likely to prevail.

Sheet iron.—There is a good demand for the heavier gauges, but much of it is required cut to pattern, and this affects the sale of regular stock.

Nails.—Are moving freely, but there is no great eagerness to buy them at the last advance. Old contracts are being worked off slowly.

Wire.—Is still very low, so low that manufacturers are looking about for some artificial

relief. Whether it be possible to form a pool will probably now soon be put to the test. We quote:

Bar Iron	18 00@19 00
Crescent Steel	10 00@12 00
Plow Steel slabs	2 50@3 75
No. 27 Sheet	2 50@3 10
Galvanized sheet, best	50 00@55 00
Galvanized Iowa bar wire	4 30@4 75
Burden Shoes	4 10@4 15
Junata Shoes	3 75@3 85
Carriage Bolts	75 00@85 00
Steel nails	25 00@35 00
Iron Nails	15 00@25 00
Rope, Sisal	12 1/2@13 00
Rope, Manila	12 1/2@13 00
Screws, American Screw Co's list	75 00@105 00
Axes	6 75@7 00
Cross cut saws, wide, per foot	26 00@33 00
Cross cut saws, narrow, per foot	21 00@23 00

With concessions to large or wholesale buyers.

Chicago Iron Market.

Specially reported by ROGERS, BROWN & Co. W. W. BACKMAN, Resident Agent.

CHICAGO, November 1, 1886.

Those who have been in condition to take orders have had a steady run at good figures during the week under review. It is not hard to get the best No. 1 foundry irons for prompt delivery by paying full prices for them, but cheap grades at special prices are difficult to pick up. The tendency of figures is steadily upward, and at the close this week will probably range 50 cents higher than at the close a week ago. Lake Superior charcoal iron, which largely controls the tone of this market, is beginning to feel quite strongly the improved influences, and is now held firmly at \$21, 4 months, or better. The material enlargement of some of the local foundries points to still greater consumption in this vicinity in the near future. All reports coming in from Western and Northern points indicate that a period of industrial expansion is before us certainly in excess of what we have witnessed in the past five years. Shipments of iron are coming in largely from the various producing districts. We revise our quotations, which are for cash f. o. b. cars Chicago:

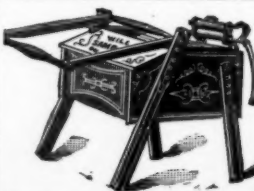
CHARCOAL FOUNDRY.	
Lake Superior	20 50@23 00
Southern	20 50@22 00
Hanging Rock	21 50@23 00
COKE AND STONE COAL FOUNDRY.	
Ohio (Hanging Rock) Softeners No. 1	20 00@20 50
" " Blackband	20 00@21 50
" " Jackson county	19 50@20 50
" " Lake ore and cinder	19 00@20 50
Southern Coke, No. 2	18 75@19 25
" " No. 2 1/2	18 25@18 75
CAR WHEEL AND MALLEABLE.	
Lake Superior	20 50@23 00
Standard Southern	23 50@26 50
Hanging Rock, cold blast	18 50@20 50
" " warm blast	20 50@22 50
OLD MATERIALS.	
Old Rail, American	24 00@24 50
Old Wheels	18 00@19 00

St. Louis Iron Market.

Specially reported by ROGERS, BROWN & Co., Gay Building, 304 N. 3rd street, St. Louis. W. H. SHIELDS, Manager.

ST. LOUIS, November 25, 1886.

Some more large transactions have taken place in pig iron in this market the past week, and all at a still higher range of figures. It is rumored that a large sale of No. 1 Southern coke mill iron was made at something over \$17 cash on cars here for deliveries next year. Some considerable enquiries are now before sellers, with little prospects of their being met, on account of scarcity of iron called for. All branches of trade are apparently improved. The car shops are very busy with work to last them for perhaps a year to come, and more contracts are likely to be let soon. One of the railroad agents here states that they could use fully 5,000 cars in addition to what they already have. The architectural iron works are busy, but claim there is little work ahead to figure on. The stove men seem well satisfied with the outlook, and are all actively at work.



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The machine shops are not busy here, but out West they are full. The malleable iron and hardware men report trade dull north and east of here, but orders are coming in freely from the West, and they are advancing prices materially. The suspension of navigation in the Ohio has interrupted shipments of pig iron from that region the past two months. The extreme scarcity of cars in the Connellsville coke district is beginning to be felt here. We quote for cash f. o. b. cars St. Louis:

HOT-BLAST CHARCOAL.	
Missouri.....	\$19 00@20 00
Southern.....	18 00@21 00
Ohio.....	18 00@21 00
COKE AND COAL.	
Missouri.....	18 00@21 00
Southern No. 1.....	19 00@20 00
Southern No. 2.....	18 50@19 50
Southern No. 2½.....	18 00@21 00
Ohio Softeners.....	18 00@23 00

MILL IRONS.	
Missouri.....	17 00@18 00
Southern No. 1.....	17 25@18 00
Southern No. 2.....	16 25@17 00

CAR-WHEEL AND MALLEABLE IRON.	
Southern.....	23 00@26 00
Lake Superior.....	22 00@24 00

MISCELLANEOUS.	
Old Wheels.....	17 50@18 50
Old Rails.....	22 00@23 00
Connellsville Coke, East St. Louis.....	— @ 5 65

Chattanooga Iron Market.

Specially reported by LOWE & TUCKER, Brokers and Commission.

CHATTANOOGA, TENN., Nov. 1, 1886.

The past week has been but a repetition of the past—a great activity in all lines of trade, advancing prices, particularly in pig iron, which marks an advance of \$1.00 to \$2.00 per ton. Furnaces, as a general thing, are withholding quotations on round lots, and only selling to regular customers at ruling market rates. Prices to-day range from \$16.00 to \$16.50 for No. 1, and \$1 less for the respective grades as they go down. Even at this figure no round lots can be obtained. Real estate continues on a boom, and sales are being made way up in figures and resold again at big advances. Lumber is active, and all the mills are running full; in fact, all the manufacturers are running to their full capacity in their respective lines. We make some changes in our quotations:

No. 1 Foundry.....	\$16 00	@16 50
No. 2 Foundry.....	15 00	@15 50
No. 3 Foundry.....	14 50	@15 00
American Scotch.....	15 00	@16 00
Gray Forge.....	13 00	@14 00
Car-Wheel Iron.....	24 00	@25 00
Ores, Red and Brown.....	1 50	@2 25
Furnace Coke.....	2 50	@3 00
Nails, car-load lots, 30 days.....	—	@—
Bar Iron, per 100 lb.....	—	@1 75
Old Rails.....	18 00	@19 00
Old Wheels.....	13 00	@—
Wrought Scrap, No. 1.....	—	@70
" " No. 2.....	—	@50
Cotton Tie Clippings.....	—	@—
Cast Scrap.....	—	@—
Railroad Spikes.....	—	@1 80
Railroad spikes.....	—	@2 40
Light Steel Rails, long ton.....	—	@—
Barb wire—Cambria link.....	—	@—
Barbed wire—four point galvanized.....	—	@—
Barb wire.....	—	@—

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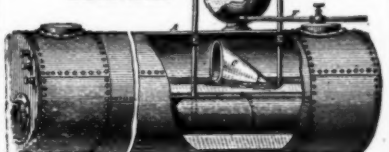
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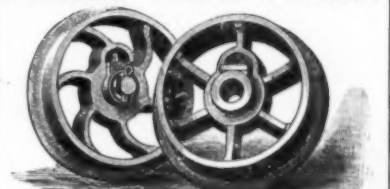
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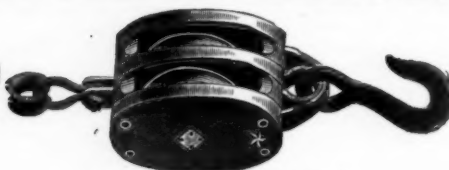
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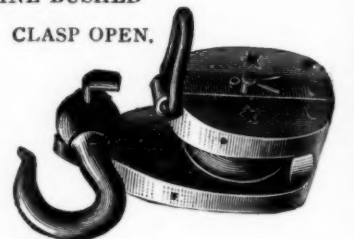
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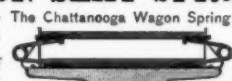
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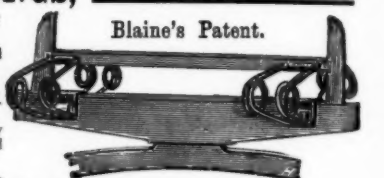
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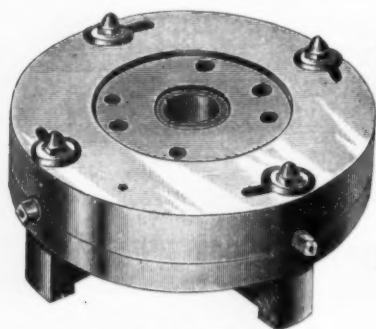


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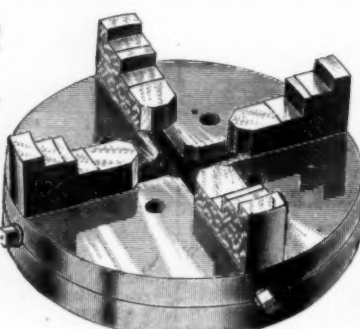


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Douglas Mfg. Co.....	No. 1, 60¢ 10 1/2
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Dowel and Hand Rail Bits.....	dis 40¢ 10 1/2
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Expansive Bits, Ives'.....	dis 25
Hollow Augers, Ives'.....	dis 25
Hollow Augers, Douglas.....	dis 25
Hol. Aug., Bonney's Adjust., 1/2 doz 1/4, dis 25	dis 25
Hol. Aug., Stearns' Adjust., 1/2 doz 1/4, dis 25	dis 25
Hol. Aug., Ives' Expansive, each 1/4, dis 25	dis 25
Hol. Aug., Universal Expansive, each 1/4, dis 25	dis 25
Wood's.....	dis 25
Gimlet Bits.....	dis 50
Gimlet Bits, Diamond.....	dis 40
Double Cut Gimlet Bits, Shephardson's.....	dis 40
Double Cut Gimlet Bits, Douglas.....	dis 40
Double Cut Gimlet Bits, Ives'.....	dis 50
Morse's Bit Stock Drill.....	dis 40
L'Hommedieu's Ship Augers.....	dis 15
AWL HAFTS.	
Sewing Brass Ferrule.....	dis 40
Patent Sewing, Short.....	dis 40
Patent Sewing, Long.....	dis 40
Patent Peg, Plain Top.....	dis 40
Patent Peg, Leather Top.....	dis 40
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Awls, Sewing, Common.....	75c. to \$1
Awls, Shouldered Peg.....	75c. to \$1
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Awls, Shouldered Brad.....	dis 25
Awls, Handled Brad.....	dis 25
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Brad Sets, No. 42, 1/2 doz.....	dis 70
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Brad Sets, Stanley's Exc., No. 2, 1/2 doz.....	dis 30
Brad Sets, Stanley's Exc., No. 3, 1/2 doz.....	dis 30
AXES.	
Collins & Co.....	dis 75
Cohoes Mfg. Co.....	dis 75
Lippincott or Mann's.....	dis 75
Single Bit, 1/2 to 5/8 and under.....	dis 60
Single Bit, 1/2 to 6 and over.....	dis 70
Double Bit, 1/2 to 5/8 and under.....	dis 60
Double Bit, 1/2 to 6 and over.....	dis 70
Double Bit, beveled.....	dis 60
Second quality Axes.....	50 cts. less than above
AXLES.	
Sheldon & Co., iron.....	dis 55
" " " " steel.....	dis 55
AXLE GREASE—FRASER'S.	
AXLE GREASE—FRASER'S.....	dis 60
BALANCES.	
Spring Balances.....	dis 50
BELLS.	
Hand, Light Brass.....	dis 75
Hand, White Metal.....	dis 60
Hand, Silver Chime.....	dis 20
Hand, Globe (Cone's) Patent.....	dis 20
Gong, Abbe's.....	dis 20
Gong, Yankee.....	dis 30
Gong, Barton's.....	dis 30
Leon Reading.....	dis 25
Pull, Brook's.....	dis 50
Crank, Taylor's.....	dis 25
Lever, Sargent's.....	dis 35
Bloomfield.....	dis 20
Lever, R. & E. M. Co's.....	dis 45
Call.....	dis 25
Cow, Common Wrought.....	dis 55
Cow, Western, Sargent's List.....	dis 55
Cow, Kentucky, Sargent's List.....	dis 55
Cow, Moore's or Dodge's, Genuine K., new list.....	dis 55
Nos. 0 1 1 1/2 2 3 4 5 6 Hog 1 dis. 70	
dis 10 10 10 10 10 10 10 10 10 10	
Cow, Texas "Star".....	dis 40
BELLGOWS.	
Blacksmith's Common.....	dis 50
Molder's.....	dis 25
Hand Bellows.....	dis 25
BLIND FASTENERS.	
Francis.....	dis 20
Mackrell's.....	dis 20
Van Sand's Screw Pattern.....	dis 20
Van Sand's Old Pattern.....	dis 20
Merriman's.....	dis 20
Zimmerman's, 10 1/2 in.....	dis 30
Zimmerman's, 9 in.....	dis 30
BLIND STAPLES.	
Barbed, 1/4 in. and larger.....	dis 10
Barbed, 1/4 in.....	dis 10
BLOCKS.	
Penfield Blocks.....	dis 50
Bagnall & Loud.....	dis 50
BOLTS.	
Cast Iron Barrel Shutter, &c.....	dis 55
Cast Iron Chain (Sargent's list).....	dis 60
Wrought Square.....	dis 55
Wrt. Shutter, all Iron, Stanley's list.....	dis 50
Wrt. Shutter, Brass Knob, Stanley's list.....	dis 50
Wrought Shutter, Sargent's list.....	dis 55
Wrought Sunk Flush, Sargent's.....	dis 60
Wrought Sunk Flush, Stanley's.....	dis 60
Wrought B. K. Flush, Stanley's.....	dis 60
Carriage and Tire, Common, new list.....	dis 80
Carriage and Tire, Philadelphia Pattern.....	dis 80
Carriage Bolts, Clarke's.....	dis 75
Norway.....	dis 75
R. B. & W. Carriage (old list).....	dis 65
Tire, American Screw Co's., Phila.....	dis 80
Tire, "Bay State".....	dis 65
Eagle Philadelphia Tire Bolt.....	dis 75
Stove.....	dis 70
Flow.....	dis 60
Machine.....	dis 75
Bolt Ends and Lag Screws.....	dis 75
BORAX.	
150 lb net.....	dis 10
BRACES.	
Q. S. Backus.....	dis 50
Barber's.....	dis 40
Spofford's Patent.....	dis 50
Ive's Patent Braces.....	dis 50
Common Ball (American).....	dis 55
Amidon's.....	dis 50
BOBING MACHINES—WITHOUT AUGERS.	
Sweet & Clark upright, 3/6 angular.....	dis 40
Lawrence.....	dis 30
Hubbard.....	dis 30
Phillips, with Augers.....	dis 70
BRACKETS.	
Shelf, plain.....	dis 50
Shelf, fancy.....	dis 50
BRIGHT WIRE GOODS.	
New list.....	dis 70

BULL RINGS.	
Union Nut Co.....	dis 55
Sargent's.....	dis 60
Humason, Beckley & Co's.....	dis 60
BUTTS.	
Wrought Brass.....	dis 70
Cast Brass, Fast Joint.....	dis 10
Cast Brass, Loose Joint.....	dis 10
Fast Joint, Narrow.....	dis 60
Fast Joint, Broad.....	dis 60
Loose Joint.....	dis 70
Table Butts, Japanned.....	dis 70
Loose Joint, Jap, with Acorns.....	dis 70
Parliament Butts.....	dis 70
Mayer's Hinges.....	dis 70
Loose Pin, no Acorn.....	dis 70
Loose Pin, Acorns.....	dis 70
Loose Pin, Acorns, Japanned.....	dis 70
Loose Pin, Acorns, Jap'd, Plated.....	dis 70
Tips.....	dis 70
Wrought Iron.	
Fast Joint, Narrow.....	dis 65
Fast Joint, Lt. Narrow.....	dis 65
Fast Joint, Broad.....	dis 65
Loose Joint, Broad.....	dis 65
Table Butts, Back Flaps, &c.....	dis 65
Inside Blind, Regular.....	dis 65
Inside Blind, Light.....	dis 65
Loose Pin, Wrt.....	dis 65
Loose Pin, Light.....	dis 65
Spring Hinges—	
Geer's Spring and Blank Butts.....	dis 30
Hart Manufacturing Co.....	dis 60
American Spring Hinge Co's.....	dis 25
Gem Spring Hinges.....	dis 25
Blind Butts, Shepard's, Nos. 50 and 60.....	dis 70
Blind Butts, Shepard's, No. 50.....	dis 70
Blind Butts, Shepard's No. 75.....	dis 70
Blind Butts, Lull & Porter.....	dis 80
Blind Butts, Huffer.....	dis 80
Blind Butts, Clark's, Nos. 1, 3, 5.....	dis 80
Standard Lull & Porter.....	dis 75
BOW PINS.	
Humason, Beckley & Co's.....	dis 55
Sargent & Co's.....	dis 55
Hotchkiss.....	dis 25
BUTCHER'S CLEAVERS.	
Humason & Beckley Mfg. Co.....	dis 25
Bradley's.....	dis 25
Beatty's.....	dis 25
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CROW BARS.	
Cast Steel	lb 4c
Iron, Steel Points	lb 3 3/4c
CURLING IRONS, &c.	
1/2, 3/4, 1 in., \$1.80, 2.00, 2.50	dis 10 %
Curling Tongs	doz \$3.65, dis 10 %
Pinching Irons	doz \$7.50, dis 20 %
CURRY COMBS.	
Fitch's new list	dis 50 %
Hotchkins, Novelty, new list, July, 1880	dis 25 %
Hotchkins, Excelsior Superior Champion	dis 25 %
Lawrence, "Perfect"	dis 25 10 %
Kubbert	doz \$10.00, dis 25 %
Sweet & Clarke	dis 50 %
Lusters	dis 25 %
CUTLERY.	
Association (Table)	net
Naugatuck Cutlery Co.	list net
Excelsior Knife Co.	net
Wilson's Butcher and Shoe Knives	dis 30 %
Ames' Shoe Knives	dis 15 %
Wm. Rogers Mfg. Co., Plated Cutlery	Net
DOG COLLARS.	
Embossed Gilt	dis 20
Leather	dis 25
Brass	dis 25
DOOR SPRINGS.	
Torrey's Rod, regular size, 1/2 doz.	\$3. dis 40 & 10 %
Gem (Coil):	
No. 1, Large Japanned	doz \$4.00
No. 2, Medium Japanned	doz 2.75
No. 3, Small Japanned	doz 2.00
No. 4, ("Shoo Fly") Screen door size, 1.50	
No. 5, Screen door size	2.00
No. 6, Medium	2.75
No. 7, Large	4.00
Standard—10 doz \$1.25; 9 doz \$1.75	dis 60 & 10 %
8 doz 2.50; 6 doz \$3.50	dis 60 & 10 %
Hercules	dis 50 & 10 %
DOOR KIVES.	
Ohio Tool Co.	dis 60 & 10 %
Crossman's No. 1	dis 65 & 5 %
Nobles Mfg. Co.	dis 15 %
Bradley's	dis 35 %
Adjustable Handle	dis 20 %
P. S. & W.	dis 70 & 10 %
Douglass	dis 75 %
DRILLS AND DRILL STOCKS.	
Blacksmiths'	each, \$2.50, dis 10 %
Blacksmiths' Self-Feeding	each, 7.50, dis 20 %
Breast, P. S. & W.	dis 20 & 10 %
Breast, Wilson's	dis 20 %
Breast, Bartholomew	each, \$3.00, dis 25 %
Wilson's Drill Stocks	dis 10 %
Automatic Boring Tools	each, \$2.25, dis 20 %
Mannix Drill Mfg. Co's—	
Model Bench Drill	dis 10.00, dis 50 %
XXX Port Drill	\$2.00, dis 50 %
HOG BRATERS.	
Dover	doz \$2.50, dis 2 %
Medallion	gross, \$10.00
Victoria	gross, \$10.00
EMERY AND EMERY PAPER.	
Regular numbers	lb 6c
Tour and F.	lb 4c
A. & Emery Paper	dis 20 %
ENAMELED AND TINNED WARE.	
Kettles	dis 55 %
auce Pans	dis 35 %
inned Sauce Pans	dis 35 %
Scutcheon Pins—BRASS	dis 50 %
ESCUTCHEONS.	
Door Lock	Same discounts as Door Locks
Brass Thread	dis 25 %
Wood	dis 25 %
FAUCETS.	
enn's	dis 40 %
enn's Cork Stops	dis 33 1/2 %
tar	dis 55 & 10 %
rary's Patent Petroleum	dis 20 & 10 %
Fent's Patent Key	dis 45 %
Anchor Lock	dis 45 %
Metallic Key, Leather Lined	dis 60 %
ork Lined	dis 60 %
Sommer's Best Metallic Key	dis 40 %
Sommer's Cork Lined, 1st quality	dis 50 %
FILES.	
M. Boynton's	new list, dis 25 %
estern File Co.	dis 45 %
utcher's	\$4.50 to \$6.00
loss & Gamble	\$4.50 to \$6.00
Diston & Sons (new list)	dis 40 %
eler Bros.' Horse Rasps	dis 30 & 10 & 5 %
icholson	dis 55 & 10 %
ew American	dis 50 & 10 %
nion File Co.	dis 45 %
ubs, new list	\$7.50 to \$6.25 off
FLUTING MACHINES.	
nox, 4 1/2-inch Rolls	\$3.50 each } dis 35 %
nox, 6-inch Rolls	\$4.00 each }
nox, 8-inch	\$4.50 each }
ngle, 3/4-inch Roll	\$2.25, dis 35 %
ngle, 5/8-inch Roll	2.85, dis 35 %
rown, 1/2-in., \$3.50; 6, \$4.00; 8, \$6.50 each	dis 35 %
rown, Jewell	\$1.00, \$1.25, \$1.50
merican, 5-in., \$3; 6-in., \$3.40; 7-in., \$4.50 each	dis 35 %
omestic Fluter	\$1.50 each, net
ewna Hand Fluter, White Metal, 1/2 doz	\$12 dis 25 %
own Hand Fluter, Nos. 1, \$15; 2, \$12.50	
3, \$10.50; 4, \$8.25 each	dis 35 %
mbined Fluter and Sad Iron, 1/2 doz	\$15.00, dis 30 %
POKERS.	
awson & Brenizer	dis 60 %
emington	dis 50 & 10 %
eeble & Fisher	dis 50 & 10 %
SRY PANS.	
urnished list as follows:	dis 60 & 10 & 10 %
0 1 2 3 4 5 6 7 8	
doz.	\$3.00 3.75 4.25 4.70 5.25 6.00 7.00 8.00 9.00
GAUGES.	
arking, Stanley's	dis 50 & 10 & 10 %
arking, Chapin's	dis 55 & 10 & 10 %
ire, 1/2-in.	dis 10 & 10 %
ire, Diaston's	dis 20 %
ire, Wheeler, Madden & Co.	dis 10 %
GIMLETS.	
ail and Spike	dis 40 %
Eureka" Gimlets	dis 50 %
Diamond" Gimlets	dis 50 %
ouble Cut, Shepardson's	dis 50 %
ouble Cut, Hartwell's	dis 50 %
ouble Cut, Ives'	dis 50 %
ouble Cut, Douglass'	dis 35 %
eel"	\$7.00, \$12.00 dis 25 %
GLUE POTS.	
aned and Enameled	dis 35 %
mily, Howe's "Eureka"	dis 25 %
mily, L. F. & C.'s "Handy"	dis 30 %
GRINDSTONE FIXTURES.	
rgent's Patent	dis 70 & 10 %
arding Hardware Co.	dis 25 & 10 %
GUN WADS.	
ey's B. E. wads, 11 upwards	\$1.75
9 and 10	2.00
7 8	2.25
P. E. " 11 upwards	2.00
9 and 10	3.65
7 8	4.45
HAMMERS.	
aydole's	dis 15 %
rtford Hammer Co.	dis 25 %
ey's Tack No. 1, 2, 3, 1.25, 1.50 and 1.75, dis 10 & 10 %	

Warner & Noble's.....	dis 5
Kip's or Selsor's.....	dis 30
Verkes & Plumb.....	dis 15
Buffalo Hammer Co's—	
Sledges.....	dis 35
Mason and Spalling Hammers, &c.....	dis 60&10
HANDLES.—Door or Thumb Latches.	
Nos..... 0 1 2 3 4	
Per doz.....\$0.80 1.00 1.18 1.35 1.50.....	dis 55&10
Roggin's Latches.....	dis 35c. 40c. ne
Bronze Iron Drop Latches.....	dis 90.90&1.10
Jap'd Store Door Handles—Nuts, \$1.25; Plate.....	dis 10
Barn Door, \$1.10.....	dis 10
Wrought Chest.....	dis 65&10
Surface Chest.....	dis 55&10
Flush Chest.....	dis 55&10
Lifting.....	dis 50&10
Saw and Plane.....	dis 40&10
Lippincott Cross-Cut Saw.....	20c. per pair
Hammer and Hatchet.....	dis 20
Brad Awl.....	gross, \$3.00, dis 20&10
Chisel, all kinds.....	dis 50&10
Auger, assorted, gross.....	dis 4.50
Auger, large, gross.....	5.00
Patent Auger, 1 1/2".....	dis 25
Patent Auger, Douglass.....	set \$1.25
Patent Auger, Swan's.....	set 1.00
HAMMOCK CHAIRS	
White Mountain, per doz.....	\$36
" " Finished in red, per doz.....	\$42.0
HANGERS.	
Crunk Hanger Co.—	
No. 4, per doz. pair.....	\$12.00, 50&10
" 6, " ".....	14.40, 50&10
" 6, " ".....	18.00, 50&10
Iron clad track.....	8 cents per foot, 50&10
Barn door stays.....	\$3.00 per doz., 50&10
Barn Door, old patterns.....	dis 60&10
Barn Door, New England.....	dis 60&10
Climax (Anti-Friction).....	dis 50
Warner's.....	dis 20
Richard's.....	dis 20
HATCHETS.	
Underhill's.....	35
Haines' Solid Steel.....	30
Shingling, Nos. 1 & 2.....	dis 7.25 \$5.00 \$7.75
Claw, Nos. 1 & 2.....	dis 7.25 8.50 9.25
Shingling, Nos. 1 & 2.....	dis 7.25 8.00 8.50
Hammond's new list.....	dis 45
Blood's.....	dis 35
Hunt's.....	dis 30
Russell's, low list.....	dis 40
Cohoes Bench Broad Adzes.....	40
MAY KNIVES.	
Gem.....	dis 37.50
"Lightning".....	dis 30 net 5
Wadsworth's.....	dis 30
HINGES	
Plate Hinges {8, 10&12 in.....	5/16c. 3/8c. 1/2c.
"Providence".....	1/2c. 3/4c.
Screw Hook {8, 10, 12 in.....	3/16c. 1/2c.
And Strap.....	14 to 36 in.....
Crown spring hinges, for screen doors, dis 60; for solid doors, single action, dis 45; for solid doors, double action, dis 55.	
Crown Screen Door Latch.....	gross \$12, dis 55
Crown Christmas-Tree Holders, 2-inch, per doz; 3-inch, \$12.....	dis 45
Dickford Portable Pump.....	each \$6, dis 20
American Cake Mixer, No. 6.....	each \$3.50, dis 20
American Tobacco Cutter.....	dis \$15, dis 30
A. M. Co. Clothes Wringer, No. 2 rolls, 10x14, \$48.....	dis 30
12x14, \$48.....	dis 30
Heavy Welded Hook {8 to 12 in.....	75c. 100 lb. } dis
{14 in. & up, \$6.....	100 lb. } 20
Screw Hook and Eye.....	1/2 & 1 in..... 9c. 3/4 in..... 10c. 1 in..... 12c.
Wrought Strap & T list, Dec. 20, '77.....	dis 65
PLANTERS.	
Planters.....	dis 60&10&5
Riveted Shank.....	dis 5.00, dis 60&10&5
Irish.....	dis 50
Trub's Pat. Solid C. S. Planters.....	dis 60&10
Trub's Pat. Solid C. S. Scovill Pattern.....	dis 60&5
Tubbard, Bakewell & Co.....	dis 60
HORSE	
Usable: Nos. 5 6 7 8 9 10	
Plain.....	30c 37c 25c 24c 23c.....dis 20&10
Finish'd.....	31c 28c 26c 25c 24c.....dis 20&10
lin'n, P'n.....	23c 21c 20c 19c 18c.....dis 20&10
lin'n, Fin'd.....	24c 22c 21c 20c 19c.....dis 20&10
sexes, P'n.....	31c 28c 26c 25c 24c.....dis 30
utnam.....	37c 24c 23c 21c 20c.....dis 50&10
aranac.....	26c 23c 21c 20c 19c 18c.....dis 20
h'n.....	26c 23c 21c 20c 19c 18c.....dis 10&5
th'w.....	26c 23c 21c 20c 19c 18c.....dis 10&5
hampain.....	31c 28c 26c 25c 24c 23c.....dis 30&10
Forged {B.....	28 25 23 21 21.....dis 10&5
C.....	28 25 23 21 21.....dis 10&5
K.....	28 25 23 21 21.....dis 10&5
Ridgewater.....	28c 25c 23c 21c 20c.....dis 30
ev Haven.....	28c 26c 25c 24c 23c.....dis 30&10
apewell.....	31c 26c 26c 25c 24c 23c.....dis 20&10
HORSE SHOES.	
Garden.....	1/2 keg \$3.85
I. Horse Shoe Co., Perkin's Improved, Light, Medium and Heavy.....	1/2 keg \$3.87 1/2
ule Shoes.....	1/2 keg \$4.87 1/2
alker's—Forged: (Light, Medium and Heavy.) Horse.....	1/2 keg \$3.85
Mule.....	1/2 keg \$4.85
ryden Forg'd Heel & Toe Horse Shoes.....	\$4.75 1/2 keg
" " Plain.....	\$4.75
" " Frog.....	\$5.00
" " Pressure.....	\$5.00
" " Heel & Toe Mule.....	\$5.75
ryden Steel Mule Shoes.....	1/2 keg \$3.85
diamond State Horse Shoes.....	1/2 keg \$3.85
diamond State Mule Shoes.....	1/2 keg \$4.85
enrich Light, Medium and Heavy Horse Shoes.....	1/2 keg \$3.87 1/2
enrich Mule Shoes.....	1/2 keg \$4.87 1/2
S Shoes—Mt. Carmel Ox Shoes.....	20 cts. 1/2 lb.
ICE CREAM FREEZERS.	
erless—3 quart, \$4.50; 4 quart, \$5.50; 6 quart, \$7.80; 8 quart, \$9.00; 10 quart, \$12. The Gooch Patent "Giant".....	12 quart, \$20; 18 quart, \$25; 24 quart, \$35; 30 quart, \$45; 36 quart, \$55; 42 quart, \$65; 48 quart, \$75; 54 quart, \$85; 60 quart, \$95; 66 quart, \$105; 72 quart, \$115; 78 quart, \$125; 84 quart, \$135; 90 quart, \$145; 96 quart, \$155; 102 quart, \$165; 108 quart, \$175; 114 quart, \$185; 120 quart, \$195; 126 quart, \$205; 132 quart, \$215; 138 quart, \$225; 144 quart, \$235; 150 quart, \$245; 156 quart, \$255; 162 quart, \$265; 168 quart, \$275; 174 quart, \$285; 180 quart, \$295; 186

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Sliding Door, Russell's Anti-Friction.....dis 60&10&2
Also see Hangers.

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Ames, New List, July 1, 1887.....dis 15
Griffiths.....dis 15
Remington's (Lowman's Patent).....dis 30
Rowland.....dis 30
Kimball's.....dis 30
Lippincott, new list.....dis 20
Hussey, Bins & Co.....dis 15

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Stearns.....dis 10, dis 40&5
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Winsted.....dis 9c, dis 5

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Game, Oneida Pattern.....dis 60&10&5
Game, Blake's Patent.....dis 40&10
Mouse, Wood, Choker.....dis 10
Mouse, Round Wire.....dis 10
Mouse, Wire.....dis 10
Mouse, Catch-em-alive.....dis 10
Cyclon Mouse.....dis 75
Ideal Mouse.....dis 10
Boss.....dis 10
Rat, "Decoy".....dis 10
Delusion Mouse, per doz.....dis 10

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Eureka, No. 2.....dis 40

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Trenton.....dis 25
Parker's.....dis 20
Prentiss.....dis 25
Bonney's.....dis 35
Well Wheels.....dis 60&10&10
Stephen's Patent Vises.....dis 50

WIRE.
Brass and Copper, list of Jan. 17, 1884.....dis 30
Bright and Annealed.....dis 30
Bright and Annealed.....dis 30
Bright and Annealed.....dis 30
Coppered.....dis 30
Galvanized, Nos. 0 to 18.....dis 40
Tinned, Nos. 0 to 18.....dis 60
Tinned Broom Wire, Nos. 18 to 25.....dis 60
Annealed Fence, Nos. 8&9.....dis 55
Annealed Grape, Nos. 10 to 14.....dis 50
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Japanned Barb Fence.....dis 40
Galvanized Barb Fence.....dis 50
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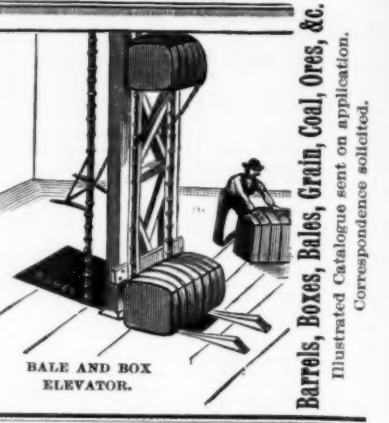
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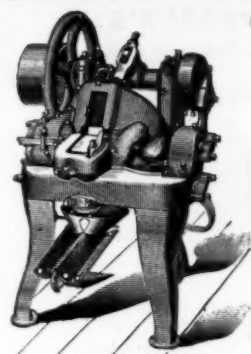
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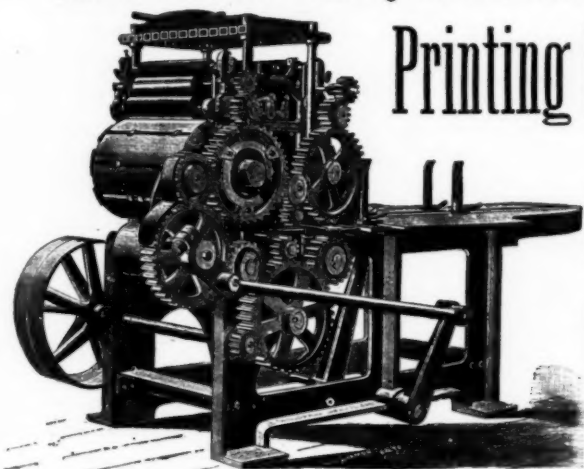
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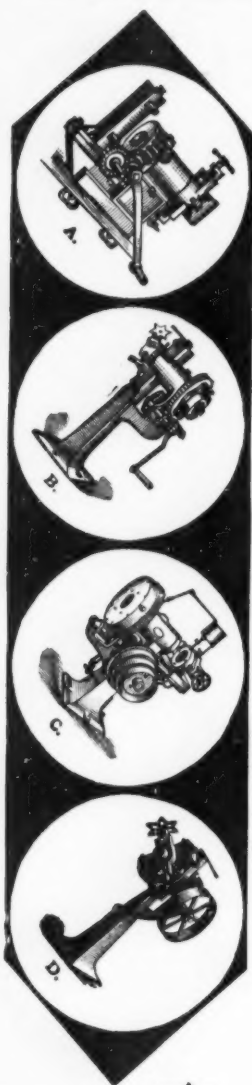
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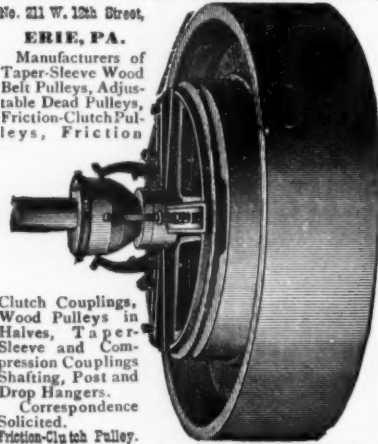
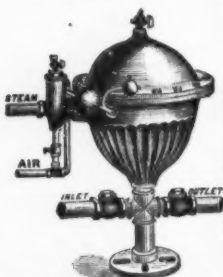
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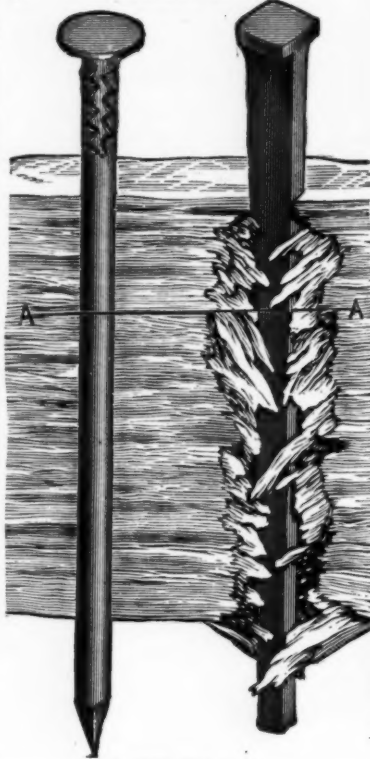
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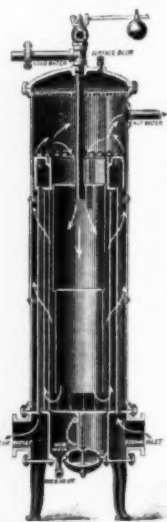
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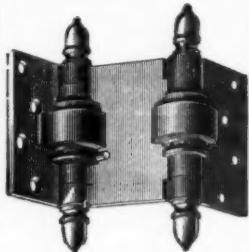
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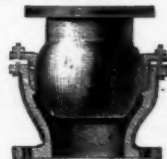
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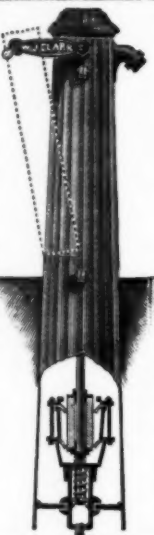
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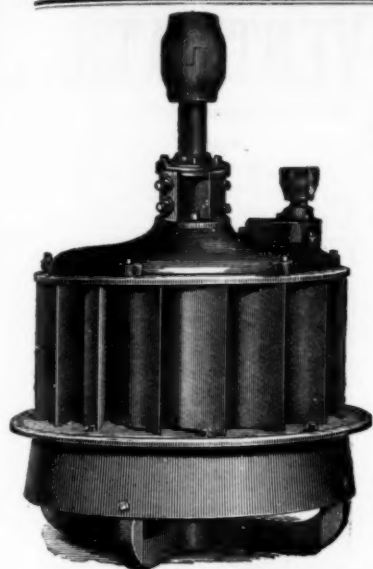
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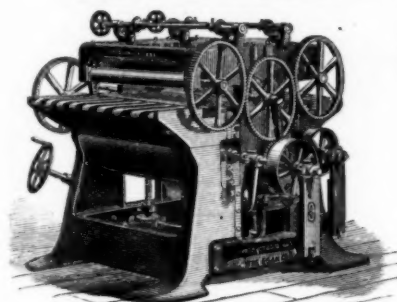
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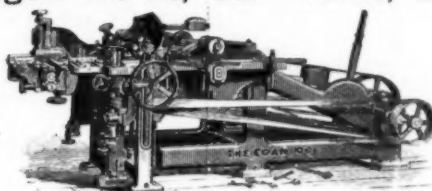
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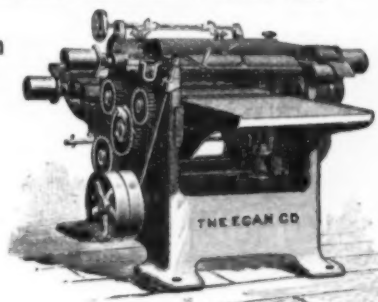
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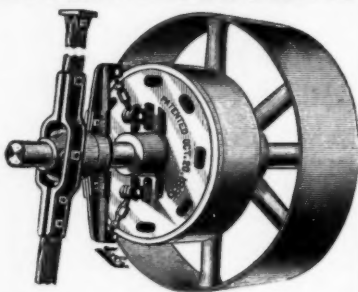
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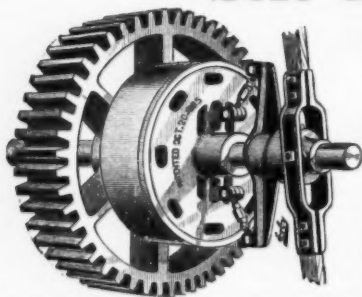
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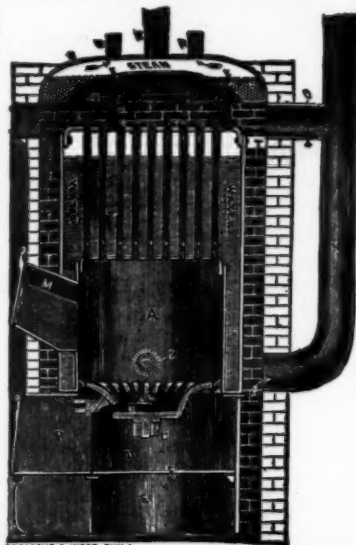
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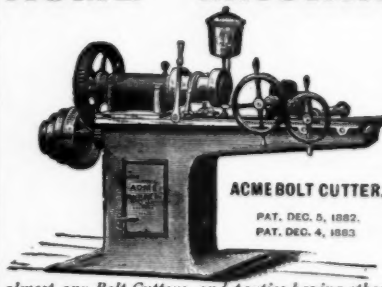
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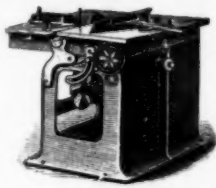


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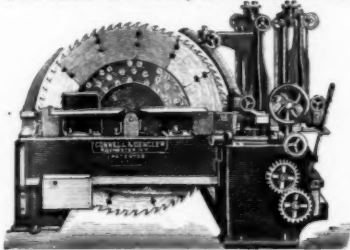
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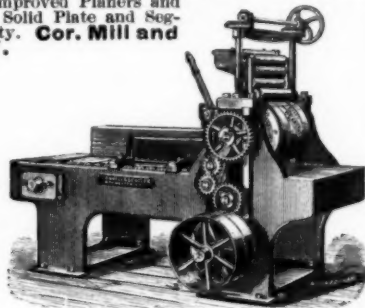
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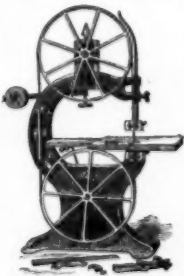
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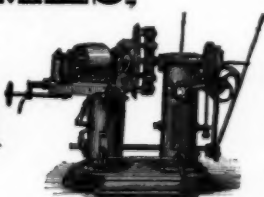
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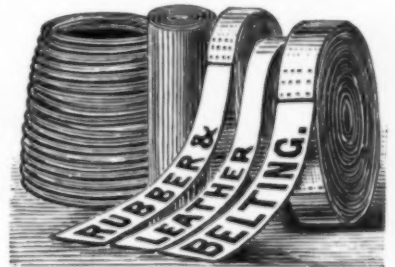
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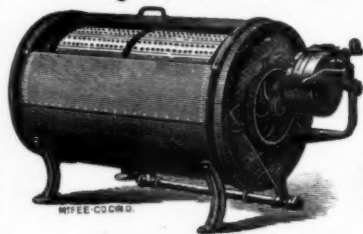
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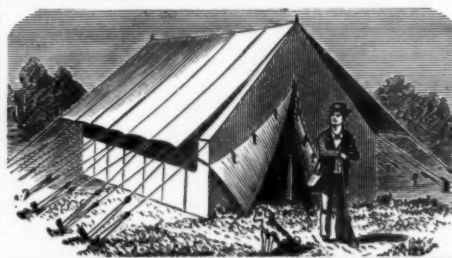


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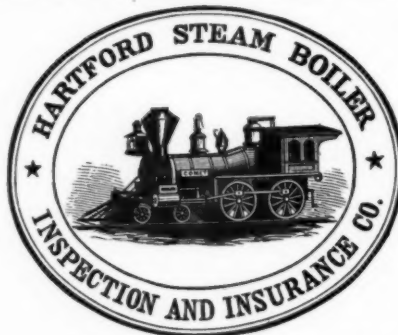
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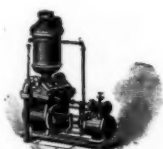
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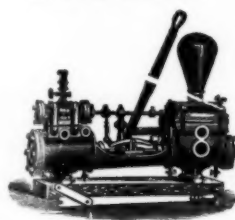
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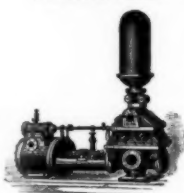
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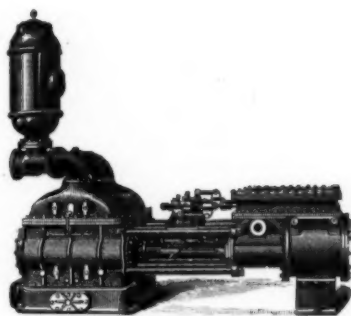
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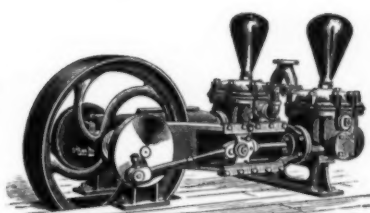
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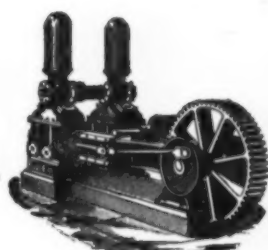
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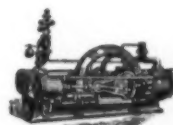
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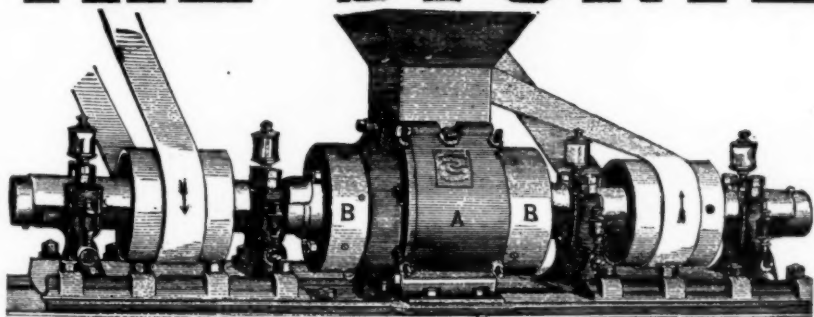
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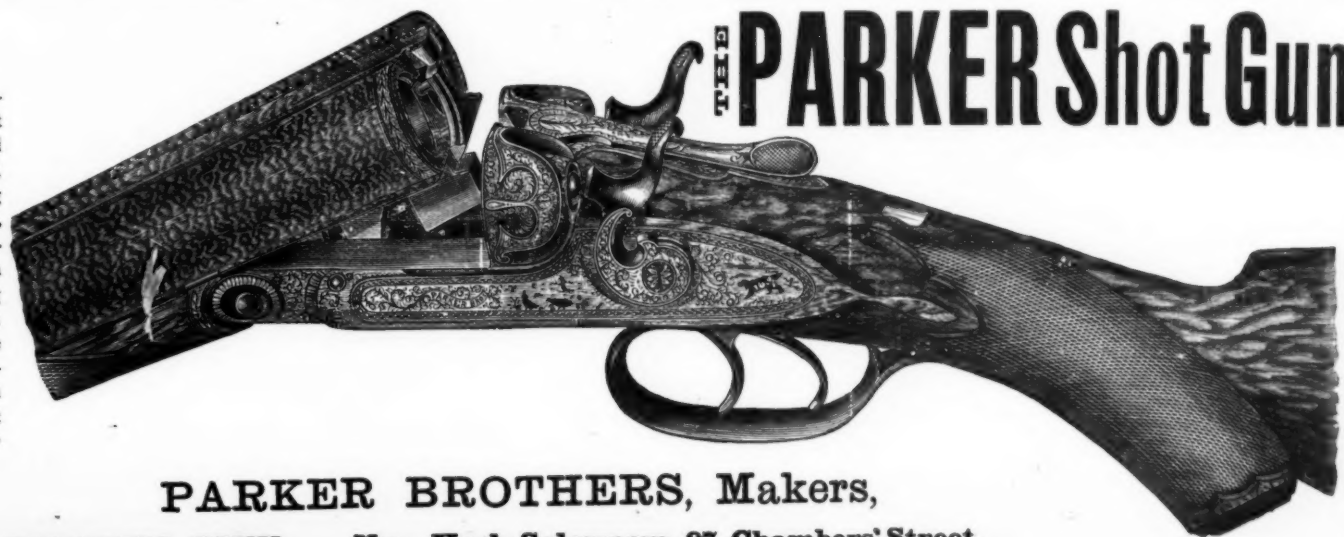
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